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# IMPRIMITIVE SUBSTITUTION GROUPS OF DEGREE SIXTEEN

DISSERTATION

PRESENTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE  
DEGREE OF DOCTOR OF PHILOSOPHY IN THE GRADUATE  
SCHOOL OF THE OHIO STATE UNIVERSITY.

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## (2) Four systems,

$$t = a_1b_1.a_2b_2.a_3b_3.a_4b_4.c_1d_1.c_2d_2.c_3d_3.c_4d_4$$

$$t_1 = a_1b_1c_1.a_2b_2c_2.a_3b_3c_3.a_4b_4c_4$$

$$t_3 = a_1b_1.a_2b_2.a_3b_3.a_4b_4$$

Of these  $t$   $t_1$  generate a group simply isomorphic to the alternating group of degree four and  $t$   $t_1$   $t_3$  generate one simply isomorphic to the symmetric group of degree four.

## (3) Eight systems,

$$t_1 = a_1b_1c_1d_1e_1f_1g_1.a_2b_2c_2d_2e_2f_2g_2$$

$$t_2 = a_1e_1f_1d_1b_1c_1g_1h_1.a_2e_2f_2d_2b_2c_2g_2h_2$$

$$t_3 = b_1d_1c_1g_1e_1f_1.b_2d_2c_2g_2e_2f_2$$

$$t_4 = h_1a_1.b_1d_1.c_1g_1.e_1f_1.h_2a_2.b_2d_2.c_2g_2.e_2f_2$$

$$t_5 = b_1g_1d_1c_1.e_1f_1.b_2g_2d_2c_2.e_2f_2$$

$$t_6 = a_1b_1h_1.a_2b_2h_2$$

$$t_7 = a_1h_1.a_2h_2$$

Of these  $t_1$   $t_7$  generate a group simply isomorphic to the symmetric group of degree eight;  $t_1$   $t_6$  to the alternating group;  $t_1$   $t_4$   $t_3^2$   $t_5$  to the primitive group of order 1344;  $t_1$   $t_2$   $t_3$  to the 336;  $t_1$   $t_2^2$   $t_3^2$  to 168<sub>1</sub>;  $t_1$   $t_4$   $t_3^2$  to 168<sub>2</sub>;  $t_1$   $t_4$  to the 56 group.

The generators of the tails involve only the  $t$ 's, or they involve substitutions that do not interchange the systems multiplied by  $t$ 's. To illustrate

$$[(a_1a_2a_3a_4a_5a_6a_7a_8)_{64_4}(b_1b_2b_3b_4b_5b_6b_7b_8)_{64_4}]_{32, 32} t, \quad a_1a_3a_2a_4.b_1b_3b_2b_4.t$$

are the two groups that have for their common head a 32, 32 isomorphism of the fourth group of order 64 in Professor Miller's list, and for tails this head multiplied by  $t$  and  $a_1a_3a_2a_4.b_1b_3b_2b_4.t$  respectively. This notation is still further abridged to

$$[(a_{12345678})_{64_4}(b_{12345678})_{64_4}]_{32, 32} t, \quad a_{1324}.b_{1324}.t$$

Similarly

$$[(a_{1234})_4(b_{1234})_4(c_{1234})_4(d_{1234})_4] t t_1 t_3, \quad t t_1 a_{12}.b_{12}.c_{12}.d_{12}.t_3$$

are the two groups having for their common head the direct product of the non-cyclic transitive groups of degree four and having for tails this head multiplied by each of the 23 substitutions different from identity of the groups generated by  $t$   $t_1$   $t_3$  and  $t$   $t_1$   $a_{12}.b_{12}.c_{12}.d_{12}.t_3$  respectively.



## SYSTEMS OF INTRANSITIVITY OF HEADS 8, 8.

Order	No.	
3251404800	1	$[(a_{12345678}) \text{ all } (b_{12345678}) \text{ all}] t$
1625702400	1, 2	$[(a_{12345678}) \text{ all } (b_{12345678}) \text{ all}] \text{ pos } t, a_{12}.t$
812851200	1	$[(a_{12345678}) \text{ pos } (b_{12345678}) \text{ pos}] t$
3612672	1	$[(a_{12345678})_{1344} (b_{12345678})_{1344}] t$
2654208	1	$[(a_{12345678})_{1152} (b_{12345678})_{1152}] t$
1327104	1, 2	$[(a_{12345678})_{1152} (b_{12345678})_{1152}] \text{ dim } t, a_{15-26-37-48}.t$
	3, 4	$[(a_{12345678})_{1152} (b_{12345678})_{1152}]_{576, 576} t, a_{12}.t$
	5, 6	$[(a_{12345678})_{1152} (b_{12345678})_{1152}]_{576, 576} t, a_{12}.t$
663552	1, 4	$[(a_{12345678})_{1152} (b_{12345678})_{1152}]_{288, 288} t, a_{12}.t,$ $a_{15-26-37-48}.t, a_{1625-37-48}.t$
	5	$[(a_{12345678})_{1152} (b_{12345678})_{1152}]_{288, 288} t$
	6	$[(a_{12345678})_{1152} (b_{12345678})_{1152}]_{288, 288} t$
	7	$[(a_{12345678})_{1152} (b_{12345678})_{1152}]_{288, 288} t$
	8	$[(a_{12345678})_{576_2} (b_{12345678})_{576_2}] t$
	9	$[(a_{12345678})_{576_2} (b_{12345678})_{576_2}] t$
331776	1, 2	$[(a_{12345678})_{1152} (b_{12345678})_{1152}]_{144, 144} t, a_{12-56}.t$
	3, 4	$[(a_{12345678})_{1152} (b_{12345678})_{1152}]_{144, 144} t, a_{12-56}.t$
	5	$[(a_{12345678})_{576_2} (b_{12345678})_{576_2}]_{288, 288} a_{15-26-37-48}.t$
	6, 9	$[(a_{12345678})_{576_2} (b_{12345678})_{576_2}]_{288, 288} t, a_{12-56}.t,$ $a_{12}.b_{12}.t, a_{56}.b_{12}.t$
	10	$[(a_{12345678})_{576_2} (b_{12345678})_{576_2}]_{288, 288} a_{1625-37-48}.t$
294912	1	$[(a_{12345678})_{384} (b_{12345678})_{384}] t$
225792	1	$[(a_{12345678})_{336} (b_{12345678})_{336}] t$
165888	1, 4	$[(a_{12345678})_{576_2} (b_{12345678})_{576_2}]_{144, 144} t, a_{12-56}.t,$ $a_{15-26-37-48}.t, a_{12}.b_{12}.t$
	5	$[(a_{12345678})_{576_2} (b_{12345678})_{576_2}]_{144, 144} t$
	6, 7	$[(a_{12345678})_{576_2} (b_{12345678})_{576_2}]_{144, 144} a_{1625-37-48}.t,$ $a_{56}.b_{12}.t$
	8	$[(a_{12345678})_{288} (b_{12345678})_{288}] t$
147456	1, 2	$[(a_{12345678})_{384} (b_{12345678})_{384}]_{192, 192} t, a_{13-24}.t$
	3, 4	$[(a_{12345678})_{384} (b_{12345678})_{384}]_{192, 192} t, a_{12}.t$



Order	No.	
	5, 6	$[(a_{12345678})_{384}(b_{12345678})_{384}]_{192, 192} t, a_{12}.t$
112896	1, 2	$[(a_{12345678})_{336}(b_{12345678})_{336}]_{168, 168} t, a_{15642378}.t$
110592	1	$[(a_{12345678})_{576_2}(b_{12345678})_{576_2}]_{96, 96} t$
82944	1, 2	$[(a_{12345678})_{288}(b_{12345678})_{288}]_{144, 144} t, a_{15.26.37.48}.t$
80640	1	$[(a_{12345678}) \text{ all } (b_{12345678}) \text{ all}]_1, 1 t$
73728	1	$[(a_{12345678})_{192_2}(b_{12345678})_{192_2}] t$
	2, 5	$[(a_{12345678})_{384}(b_{12345678})_{384}]_{96, 96} t, a_{12}.t, a_{13.24}.t,$ $a_{1423}.t$
	6	$[(a_{12345678})_{384}(b_{12345678})_{384}]_{96, 96} t$
	7	$[(a_{12345678})_{384}(b_{12345678})_{384}]_{96, 96} t$
	8	$[(a_{12345678})_{384}(b_{12345678})_{384}]_{96, 96} t$
	9	$[(a_{12345678})_{192_3}(b_{12345678})_{192_3}] t$
	10	$[(a_{12345678})_{192_4}(b_{12345678})_{192_4}] t$
	11	$[(a_{12345678})_{192_5}(b_{12345678})_{192_5}] t$
56448	1	$[(a_{12345678})_{168_1}(b_{12345678})_{168_1}] t$
	2	$[(a_{12345678})_{168_2}(b_{12345678})_{168_2}] t$
55296	1, 2	$[(a_{12345678})_{576_2}(b_{12345678})_{576_2}]_{48, 48} t, a_{16.25.37.48}.t$
	3, 4	$[(a_{12345678})_{576_2}(b_{12345678})_{576_2}]_{48, 48} t, a_{16.25.37.48}.t$
49152	1	$[(a_{12345678})_{384}(b_{12345678})_{384}]_{64, 64} t$
40320	1, 2	$[(a_{12345678}) \text{ pos } (b_{12345678}) \text{ pos}]_1, 1 t, a_{12}.b_{12}.t$
36864	1	$[(a_{12345678})_{1152}(b_{12345678})_{1152}]_{16, 16} t$
	2	$[(a_{12345678})_{192_2}(b_{12345678})_{192_2}]_{96, 96} a_{15.26.37.48}.t$
	3, 4	$[(a_{12345678})_{192_2}(b_{12345678})_{192_2}]_{96, 96} t, a_{12}.56.t$
	5, 6	$[(a_{12345678})_{192_2}(b_{12345678})_{192_2}]_{96, 96} t, a_{15.26.37.48}.t$
	7, 8	$[(a_{12345678})_{192_3}(b_{12345678})_{192_3}]_{96, 96} t, a_{12}.t$
	9, 10	$[(a_{12345678})_{192_4}(b_{12345678})_{192_4}]_{96, 96} t, a_{13.24}.t$
	11, 12	$[(a_{12345678})_{192_5}(b_{12345678})_{192_5}]_{96, 96} t, a_{1423}.t$
32768	1	$[(a_{12345678})_{128}(b_{12345678})_{128}] t$
27648	1, 2	$[(a_{12345678})_{288}(b_{12345678})_{288}]_{48, 48} t, a_{12.56}.b_{12.56}.t$
24576	1, 2	$[(a_{12345678})_{384}(b_{12345678})_{384}]_{32, 32} t, a_{12}.t$
	3, 4	$[(a_{12345678})_{384}(b_{12345678})_{384}]_{32, 32} t, a_{12}.t$
	5, 7	$[(a_{12345678})_{192_3}(b_{12345678})_{192_3}]_{64, 64} t, a_{135.246}.t,$ $a_{13.24}.b_{13.24}.t$
21504	1	$[(a_{12345678})_{1344}(b_{12345678})_{1344}]_8, 8 t$



Order	No.	
18432	1, 2	$[(a_{12345678})_{576_2}(b_{12345678})_{576_2}]_{16, 16} t, a_{12}.b_{12}.t$
	3, 4	$[(a_{12345678})_{576_2}(b_{12345678})_{576_2}]_{16, 16} t, a_{12}.b_{12}.t$
	5, 6	$[(a_{12345678})_{192_2}(b_{12345678})_{192_2}]_{48, 48} a_{15.26.37.48}.t,$ $a_{16.25.37.48}.t$
	7	$[(a_{12345678})_{192_2}(b_{12345678})_{192_2}]_{48, 48} t$
	8	$[(a_{12345678})_{192_2}(b_{12345678})_{192_2}]_{48, 48} t$
	9	$[(a_{12345678})_{96_{10}}(b_{12345678})_{96_{10}}] t$
	10	$[(a_{12345678})_{96_{11}}(b_{12345678})_{96_{11}}] t$
	11	$[(a_{12345678})_{96_{12}}(b_{12345678})_{96_{12}}] t$
16384	1, 2	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{64, 64} t, a_{16.26.37.48}.t$
	3, 4	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{64, 64} t, a_{12}.t$
	5, 6	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{64, 64} t, a_{12}.t$
	7, 8	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{64, 64} t, a_{13.24}.t$
	9, 10	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{64, 64} t, a_{13.24}.t$
	11, 12	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{64, 64} t, a_{12}.t$
12288	13, 14	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{64, 64} t, a_{12}.t$
	1	$[(a_{12345678})_{192_2}(b_{12345678})_{192_2}]_{32, 32} t$
	2	$[(a_{12345678})_{384}(b_{12345678})_{384}]_{16, 16} t$
	3, 6	$[(a_{12345678})_{192_2}(b_{12345678})_{192_2}]_{32, 32} t, a_{12}.t,$ $a_{13.24}.b_{13.24}.t, a_{1423}.b_{13.24}.t$
	7	$[(a_{12345678})_{192_4}(b_{12345678})_{192_4}]_{32, 32} t$
	8	$[(a_{12345678})_{192_6}(b_{12345678})_{192_6}]_{32, 32} t$
9216	1, 4	$[(a_{12345678})_{288}(b_{12345678})_{288}]_{16, 16} t, a_{123.567}.t,$ $a_{12}.b_{12}.t, a_{12.56}.b_{12.56}.t$
	5	$[(a_{12345678})_{96_{10}}(b_{12345678})_{96_{10}}] a_{15.26.37.48}.t$
	6	$[(a_{12345678})_{96_{11}}(b_{12345678})_{96_{11}}] a_{15.26.37.48}.t$
8192	1, 4	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{32, 32} t, a_{12}.t,$ $a_{15.26.37.48}.t, a_{1625.37.48}.t$
	5	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{32, 32} t$
	6	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{32, 32} t$
	7	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{32, 32} t$
	8, 11	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{32, 32} t, a_{13.24}.t$ $a_{15.26.37.48}.t, a_{1735.2846}.t$
	12	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{32, 32} t$



Order	No.	
	13	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{32, 32} t$
	14	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{32, 32} t$
15, 18		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{32, 32} t, a_{12}.t,$ $a_{15-26-37-48}.t, a_{1625-37-48}.t$
	19	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{32, 32} t$
	20	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{32, 32} t$
	21	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{32, 32} t$
22, 25		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{32, 32} t, a_{12}.t, a_{13-24}.t,$ $a_{1324}.t$
	26	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{32, 32} t$
	27	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{32, 32} t$
	28	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{32, 32} t$
29, 32		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{32, 32} t, a_{12}.t, a_{13-24}.t,$ $a_{1324}.t$
	33	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{32, 32} t$
	34	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{32, 32} t$
	35	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{32, 32} t$
36, 39		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{32, 32} t, a_{12}.t, a_{13-24}.t,$ $a_{1324}.t$
	40	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{32, 32} t$
	41	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{32, 32} t$
	42	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{32, 32} t$
43, 46		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{32, 32} t, a_{12}.t, a_{13-24}.t,$ $a_{1324}.t$
	47	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{32, 32} t$
	48	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{32, 32} t$
	49	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{32, 32} t$
	50	$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}] t$
	51	$[(a_{12345678})_{64_5}(b_{12345678})_{64_5}] t$
	52	$[(a_{12345678})_{64_6}(b_{12345678})_{64_6}] t$
	53	$[(a_{12345678})_{64_7}(b_{12345678})_{64_7}] t$
	54	$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}] t$
	55	$[(a_{12345678})_{64_4}(b_{12345678})_{64_4}] t$
6272	1	$[(a_{12345678})_{56}(b_{12345678})_{56}] t$



Order	No.	
6144	1, 2	$[(a_{12345678})_{192_2}(b_{12345678})_{192_2}]_{16, 16} t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t$
	3, 4	$[(a_{12345678})_{192_2}(b_{12345678})_{192_2}]_{16, 16} t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t$
	5, 7	$[(a_{12345678})_{96_{10}}(b_{12345678})_{96_{10}}]_{32, 32} t, a_{123 \cdot 567} \cdot t,$ $a_{12 \cdot 56} \cdot b_{12 \cdot 56} \cdot t$
	8, 9	$[(a_{12345678})_{384}(b_{12345678})_{384}]_{8, 8} t, a_{12} \cdot t$
	10, 11	$[(a_{12345678})_{384}(b_{12345678})_{384}]_{8, 8} t, a_{12} \cdot t$
	12, 13	$[(a_{12345678})_{192_2}(b_{12345678})_{192_2}]_{8, 8} t, a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t$
	14, 16	$[(a_{12345678})_{96_{12}}(b_{12345678})_{96_{12}}]_{32, 32} t, a_{135 \cdot 246} \cdot t,$ $a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t$
4608	1	$[(a_{12345678})_{48_{16}}(b_{12345678})_{48_{16}}] t$
	2	$[(a_{12345678})_{48_{17}}(b_{12345678})_{48_{17}}] t$
4096	1, 2	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{16, 16} t, a_{12 \cdot 56} \cdot t$
	3, 4	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{16, 16} t, a_{12 \cdot 56} \cdot t$
	5, 6	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{16, 16} t, a_{13 \cdot 24 \cdot 57 \cdot 48} \cdot t$
	7, 8	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{16, 16} t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t$
	9, 10	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{16, 16} t, a_{12 \cdot 56} \cdot t$
	11, 12	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{16, 16} t, a_{12 \cdot 56} \cdot t$
	13, 20	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{16, 16} t, a_{12} \cdot t, a_{13 \cdot 24} \cdot t,$ $a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{1625 \cdot 37 \cdot 48} \cdot t, a_{1735 \cdot 2846} \cdot t, a_{1324} \cdot t,$ $a_{17362845} \cdot t$
	21	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{16, 16} a_{13 \cdot 24} \cdot t$
	22, 23	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{16, 16} t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t$
	24, 25	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{16, 16} t, a_{1735 \cdot 2846} \cdot t$
	26, 27	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{16, 16} t, a_{12} \cdot t$
	28, 29	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{16, 16} t, a_{12} \cdot t$
	30, 31	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{16, 16} t, a_{12} \cdot t$
	32, 33	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{16, 16} t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t$
	34, 35	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{16, 16} t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t$
	36, 37	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{16, 16} t, a_{1625 \cdot 37 \cdot 48} \cdot t$
	38, 39	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{16, 16} t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t$
	40, 41	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{16, 16} t, a_{1625 \cdot 37 \cdot 48} \cdot t$
	42, 43	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{16, 16} t, a_{13 \cdot 24} \cdot t$
	44, 45	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{16, 16} t, a_{1324} \cdot t$
	46, 47	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{16, 16} t, a_{13 \cdot 24} \cdot t$



Order	No.	
	48, 49	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{16, 16} t, a_{1324} \cdot t$
	50, 51	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{16, 16} t, a_{13 \cdot 24} \cdot t$
	52, 53	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{16, 16} t, a_{1324} \cdot t$
	54, 55	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{16, 16} t, a_{13 \cdot 24} \cdot t$
	56, 57	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{16, 16} t, a_{1324} \cdot t$
	58, 59	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{16, 16} t, a_{13 \cdot 24} \cdot t$
	60, 61	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{16, 16} t, a_{1324} \cdot t$
	62, 63	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{16, 16} t, a_{12} \cdot t$
	64, 65	$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{32, 32} t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t$
	66, 67	$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{32, 32} t, a_{13 \cdot 24} \cdot t$
	68, 69	$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{32, 32} t, a_{13 \cdot 24} \cdot t$
	70, 71	$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{32, 32} t, a_{12 \cdot 56} \cdot t$
	72, 73	$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{32, 32} t, a_{12 \cdot 56} \cdot t$
	74, 75	$[(a_{12345678})_{64_5}(b_{12345678})_{64_5}]_{32, 32} t, a_{1625 \cdot 37 \cdot 48} \cdot t$
	76, 77	$[(a_{12345678})_{64_5}(b_{12345678})_{64_5}]_{32, 32} t, a_{12 \cdot 56} \cdot t$
	78, 79	$[(a_{12345678})_{64_5}(b_{12345678})_{64_5}]_{32, 32} t, a_{13 \cdot 24} \cdot t$
	80, 81	$[(a_{12345678})_{64_6}(b_{12345678})_{64_6}]_{32, 32} t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t$
	82, 83	$[(a_{12345678})_{64_6}(b_{12345678})_{64_6}]_{32, 32} t, a_{12} \cdot t$
	84, 85	$[(a_{12345678})_{64_6}(b_{12345678})_{64_6}]_{32, 32} t, a_{12} \cdot t$
	86, 87	$[(a_{12345678})_{64_7}(b_{12345678})_{64_7}]_{32, 32} t, a_{1735 \cdot 2846} \cdot t$
	88, 89	$[(a_{12345678})_{64_7}(b_{12345678})_{64_7}]_{32, 32} t, a_{12} \cdot t$
	90, 91	$[(a_{12345678})_{64_7}(b_{12345678})_{64_7}]_{32, 32} t, a_{12} \cdot t$
	92, 93	$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_{32, 32} t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t$
	94, 95	$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_{32, 32} t, a_{1324} \cdot t$
	96, 97	$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_{32, 32} t, a_{1324} \cdot t$
	98, 99	$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_{32, 32} t, a_{12 \cdot 56} \cdot t$
	100, 101	$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_{32, 32} t, a_{12 \cdot 56} \cdot t$
	102, 103	$[(a_{12345678})_{64_4}(b_{12345678})_{64_4}]_{32, 32} t, a_{1625 \cdot 37 \cdot 48} \cdot t$
	104, 105	$[(a_{12345678})_{64_4}(b_{12345678})_{64_4}]_{32, 32} t, a_{1324} \cdot t$
	106, 107	$[(a_{12345678})_{64_4}(b_{12345678})_{64_4}]_{32, 32} t, a_{1324} \cdot t$
3072	1	$[(a_{12345678})_{192_2}(b_{12345678})_{192_2}]_{8, 8} t$
	2, 5	$[(a_{12345678})_{192_3}(b_{12345678})_{192_3}]_{8, 8} t, a_{12} \cdot t,$ $a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t, a_{1423} \cdot b_{13 \cdot 24} \cdot t$
	6	$[(a_{12345678})_{192_4}(b_{12345678})_{192_4}]_{8, 8} t$



Order	No.	
	7	$[(a_{12345678})_{192_4}(b_{12345678})_{192_4}]_{8, 8} t$
	8	$[(a_{12345678})_{192_5}(b_{12345678})_{192_5}]_{8, 8} t$
	9	$[(a_{12345678})_{192_8}(b_{12345678})_{192_8}]_{8, 8} t$
	10, 14	$[(a_{12345678})_{96_{10}}(b_{12345678})_{96_{10}}]_{16, 16} t, a_{123 \cdot 567} \cdot t,$ $a_{12 \cdot 56} \cdot b_{12 \cdot 56} \cdot t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{16 \cdot 25 \cdot 37 \cdot 48} \cdot b_{12 \cdot 56} \cdot t$
	15	$[(a_{12345678})_{96_{11}}(b_{12345678})_{96_{11}}]_{16, 16} t$
2688	1	$[(a_{12345678})_{1844}(b_{12345678})_{1844}]_{1, 1} t$
	2	$[(a_{12345678})_{168_2}(b_{12345678})_{168_2}]_{8, 8} t$
2304	1	$[(a_{12345678})_{1152}(b_{12345678})_{1152}]_{1, 1} t$
	2	$[(a_{12345678})_{48_{16}}(b_{12345678})_{48_{16}}]_{24, 24} a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t$
	3, 4	$[(a_{12345678})_{48_{16}}(b_{12345678})_{48_{16}}]_{24, 24} t, a_{12 \cdot 56} \cdot t$
	5, 6	$[(a_{12345678})_{48_{16}}(b_{12345678})_{48_{16}}]_{24, 24} t, a_{12 \cdot 56} \cdot t$
	7, 8	$[(a_{12345678})_{48_{17}}(b_{12345678})_{48_{17}}]_{24, 24} t, a_{13 \cdot 24 \cdot 78} \cdot t$
2048	1	$[(a_{12345678})_{32_{10}}(b_{12345678})_{32_{10}}] t$
	2	$[(a_{12345678})_{32_{11}}(b_{12345678})_{32_{11}}] t$
	3	$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}] t$
	4	$[(a_{12345678})_{32_{13}}(b_{12345678})_{32_{13}}] t$
	5	$[(a_{12345678})_{32_{14}}(b_{12345678})_{32_{14}}] t$
	6	$[(a_{12345678})_{32_{15}}(b_{12345678})_{32_{15}}] t$
	7	$[(a_{12345678})_{32_{17}}(b_{12345678})_{32_{17}}] t$
	8	$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}] t$
	9, 12	$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_{16, 16} t, a_{13 \cdot 24} \cdot t,$ $a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{1735 \cdot 2846} \cdot t$
	13	$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{16, 16} t$
	14	$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{16, 16} t$
	15	$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{16, 16} t$
	16, 19	$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{16, 16} t, a_{13 \cdot 24} \cdot t,$ $a_{12 \cdot 56} \cdot t, a_{1324 \cdot 56} \cdot t$
	20	$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{16, 16} t$
	21	$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{16, 16} t$
	22	$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{16, 16} t$
	23, 26	$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{16, 16} t, a_{13 \cdot 24} \cdot t,$ $a_{12 \cdot 56} \cdot t, a_{1324 \cdot 56} \cdot t$
	27	$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{16, 16} t$



Order	No.	
	28	$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{16, 16} t$
	29	$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{16, 16} t$
30, 33		$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{16, 16} t, a_{12} \cdot b_{12} \cdot t,$ $a_{12} \cdot 56 \cdot t, a_{15} \cdot 26 \cdot 37 \cdot 48 \cdot t$
	34	$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{16, 16} t$
35, 38		$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{16, 16} t, a_{12} \cdot b_{12} \cdot t,$ $a_{12} \cdot 56 \cdot t, a_{15} \cdot 26 \cdot 37 \cdot 48 \cdot t$
	39	$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{16, 16} t$
40, 42		$[(a_{12345678})_{64_5}(b_{12345678})_{64_5}]_{16, 16} a_{1625} \cdot 37 \cdot 48 \cdot t,$ $a_{12} \cdot b_{12} \cdot t, a_{56} \cdot b_{12} \cdot t$
43, 46		$[(a_{12345678})_{64_5}(b_{12345678})_{64_5}]_{16, 16} t, a_{13} \cdot 24 \cdot t,$ $a_{1625} \cdot 37 \cdot 48 \cdot t, a_{17362845} \cdot t$
	47	$[(a_{12345678})_{64_5}(b_{12345678})_{64_5}]_{16, 16} t$
	48	$[(a_{12345678})_{64_5}(b_{12345678})_{64_5}]_{16, 16} t$
	49	$[(a_{12345678})_{64_5}(b_{12345678})_{64_5}]_{16, 16} t$
50, 53		$[(a_{12345678})_{64_5}(b_{12345678})_{64_5}]_{16, 16} t, a_{1625} \cdot 37 \cdot 48 \cdot t,$ $a_{12} \cdot b_{12} \cdot t, a_{1324} \cdot b_{12} \cdot t$
54, 57		$[(a_{12345678})_{64_6}(b_{12345678})_{64_6}]_{16, 16} t, a_{15} \cdot 26 \cdot b_{15} \cdot 26 \cdot t,$ $a_{15} \cdot 26 \cdot 37 \cdot 48 \cdot t, a_{57} \cdot 68 \cdot b_{13} \cdot 24 \cdot t$
58, 61		$[(a_{12345678})_{64_6}(b_{12345678})_{64_6}]_{16, 16} t, a_{12} \cdot t,$ $a_{15} \cdot 26 \cdot 37 \cdot 48 \cdot t, a_{1625} \cdot 37 \cdot 48 \cdot t$
	62	$[(a_{12345678})_{64_6}(b_{12345678})_{64_6}]_{16, 16} t$
	63	$[(a_{12345678})_{64_6}(b_{12345678})_{64_6}]_{16, 16} t$
	64	$[(a_{12345678})_{64_6}(b_{12345678})_{64_6}]_{16, 16} t$
65, 68		$[(a_{12345678})_{64_6}(b_{12345678})_{64_6}]_{16, 16} t, a_{12} \cdot t,$ $a_{15} \cdot 26 \cdot 37 \cdot 48 \cdot t, a_{13} \cdot 24 \cdot b_{13} \cdot 24 \cdot t$
	69	$[(a_{12345678})_{64_6}(b_{12345678})_{64_6}]_{16, 16} t$
70, 71		$[(a_{12345678})_{64_7}(b_{12345678})_{64_7}]_{16, 16} a_{1735} \cdot 2846 \cdot t,$ $a_{57} \cdot 68 \cdot b_{13} \cdot 24 \cdot t$
72, 75		$[(a_{12345678})_{64_7}(b_{12345678})_{64_7}]_{16, 16} t, a_{12} \cdot t,$ $a_{1735} \cdot 2846 \cdot t, a_{18462735} \cdot t$
	76	$[(a_{12345678})_{64_7}(b_{12345678})_{64_7}]_{16, 16} t$
	77	$[(a_{12345678})_{64_7}(b_{12345678})_{64_7}]_{16, 16} t$
	78	$[(a_{12345678})_{64_7}(b_{12345678})_{64_7}]_{16, 16} t$



Order	No.	
79, 82		$[(a_{12345678})_{64_7}(b_{12345678})_{64_7}]_{16}, 16 \ t, a_{1735 \cdot 2846} \cdot t,$ $a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t, a_{1423} \cdot b_{13 \cdot 24} \cdot t$
83, 86		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_{16}, 16 \ t, a_{1324} \cdot t,$ $a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{17362845} \cdot t$
87		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_{16}, 16 \ t$
88		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_{16}, 16 \ t$
89		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_{16}, 16 \ t$
90, 93		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_{16}, 16 \ t, a_{12 \cdot 56} \cdot t,$ $a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{12} \cdot b_{12} \cdot t$
94		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_{16}, 16 \ t$
95, 98		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_{16}, 16 \ t, a_{12 \cdot 56} \cdot t,$ $a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{12} \cdot b_{12} \cdot t$
99		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_{16}, 16 \ t$
100, 103		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_{16}, 16 \ t, a_{12 \cdot 56} \cdot t,$ $a_{1324} \cdot t, a_{14 \cdot 23 \cdot 56} \cdot t$
104		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_{16}, 16 \ t$
105		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_{16}, 16 \ t$
106		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_{16}, 16 \ t$
107, 110		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_{16}, 16 \ t, a_{12 \cdot 56} \cdot t,$ $a_{1324} \cdot t, a_{14 \cdot 23 \cdot 56} \cdot t$
111		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_{16}, 16 \ t$
112		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_{16}, 16 \ t$
113		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_{16}, 16 \ t$
114, 117		$[(a_{12345678})_{64_4}(b_{12345678})_{64_4}]_{16}, 16 \ t, a_{1324} \cdot t,$ $a_{1625 \cdot 37 \cdot 48} \cdot t, a_{1735 \cdot 2846} \cdot t$
118		$[(a_{12345678})_{64_4}(b_{12345678})_{64_4}]_{16}, 16 \ t$
119		$[(a_{12345678})_{64_4}(b_{12345678})_{64_4}]_{16}, 16 \ t$
120		$[(a_{12345678})_{64_4}(b_{12345678})_{64_4}]_{16}, 16 \ t$
121, 123		$[(a_{12345678})_{64_4}(b_{12345678})_{64_4}]_{16}, 16 \ t, a_{1625 \cdot 37 \cdot 48} \cdot t,$ $a_{12} \cdot b_{12} \cdot t, a_{56} \cdot b_{12} \cdot t$
124, 127		$[(a_{12345678})_{64_4}(b_{12345678})_{64_4}]_{16}, 16 \ t, a_{1625 \cdot 37 \cdot 48} \cdot t,$ $a_{12} \cdot b_{12} \cdot t, a_{56} \cdot b_{12} \cdot t$
128, 131		$[(a_{12345678})_{128}(b_{12345678})_{128}]_8, 8 \ t, a_{12 \cdot 56} \cdot t,$ $a_{13 \cdot 24} \cdot t, a_{1423 \cdot 56} \cdot t$

Order	No.	
132, 135		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{8, 8} t, a_{12 \cdot 56} \cdot t,$ $a_{13 \cdot 24} \cdot t, a_{1423 \cdot 56} \cdot t$
136, 139		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{8, 8} t, a_{12 \cdot 56} \cdot t,$ $a_{13 \cdot 24} \cdot t, a_{1423 \cdot 56} \cdot t$
140, 143		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{8, 8} t, a_{12 \cdot 56} \cdot t,$ $a_{13 \cdot 24} \cdot t, a_{1423 \cdot 56} \cdot t$
144, 147		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{8, 8} t, a_{12 \cdot 56} \cdot t,$ $a_{13 \cdot 24} \cdot t, a_{1423 \cdot 56} \cdot t$
148, 151		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{8, 8} t, a_{12 \cdot 56} \cdot t,$ $a_{13 \cdot 24} \cdot t, a_{1423 \cdot 56} \cdot t$
152		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{8, 8} t$
153		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{8, 8} t$
154		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{8, 8} t$
155, 158		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{8, 8} t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t,$ $a_{12} \cdot t, a_{1324 \cdot 57 \cdot 68} \cdot t$
159, 162		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{8, 8} t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t,$ $a_{12} \cdot t, a_{1324 \cdot 57 \cdot 68} \cdot t$
163, 166		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{8, 8} t, a_{12} \cdot t, a_{1324 \cdot 57 \cdot 68} \cdot t,$ $a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t$
167, 170		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{8, 8} t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t,$ $a_{12} \cdot t, a_{1324 \cdot 57 \cdot 68} \cdot t$
171, 174		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{8, 8} t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t,$ $a_{12} \cdot t, a_{1324 \cdot 57 \cdot 68} \cdot t$
175, 178		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{8, 8} t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t,$ $a_{12} \cdot t, a_{1324 \cdot 57 \cdot 68} \cdot t$
179		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{8, 8} t$
180		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{8, 8} t$
181		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{8, 8} t$
182, 185		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{8, 8} t, a_{12 \cdot 56} \cdot t,$ $a_{1324} \cdot t, a_{14 \cdot 23 \cdot 56} \cdot t$
186, 189		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{8, 8} t, a_{12 \cdot 56} \cdot t,$ $a_{1324} \cdot t, a_{14 \cdot 23 \cdot 56} \cdot t$
190, 193		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{8, 8} t, a_{12 \cdot 56} \cdot t,$ $a_{1324} \cdot t, a_{14 \cdot 23 \cdot 56} \cdot t$



Order	No.	
	194, 197	$[(a_{12345678})_{128}(b_{12345678})_{128}]_8, 8 t, a_{12 \cdot 56} \cdot t,$ $a_{1324} \cdot t, a_{14 \cdot 23 \cdot 56} \cdot t$
	198, 201	$[(a_{12345678})_{128}(b_{12345678})_{128}]_8, 8 t, a_{12 \cdot 56} \cdot t,$ $a_{1324} \cdot t, a_{14 \cdot 23 \cdot 56} \cdot t$
	202, 205	$[(a_{12345678})_{128}(b_{12345678})_{128}]_8, 8 t, a_{12 \cdot 56} \cdot t,$ $a_{1324} \cdot t, a_{14 \cdot 23 \cdot 56} \cdot t$
	206	$[(a_{12345678})_{128}(b_{12345678})_{128}]_8, 8 t$
	207	$[(a_{12345678})_{128}(b_{12345678})_{128}]_8, 8 t$
	208	$[(a_{12345678})_{128}(b_{12345678})_{128}]_8, 8 t$
1536	1	$[(a_{12345678})_{384}(b_{12345678})_{384}]_2, 2 t$
	2, 3	$[(a_{12345678})_{96_{12}}(b_{12345678})_{96_{12}}]_8, 8 t, a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t$
	4, 5	$[(a_{12345678})_{96_{12}}(b_{12345678})_{96_{12}}]_8, 8 t, a_{1423} \cdot b_{1423} \cdot t$
	6, 7	$[(a_{12345678})_{192_2}(b_{12345678})_{192_2}]_4, 4 t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t$
	8, 9	$[(a_{12345678})_{192_2}(b_{12345678})_{192_2}]_4, 4 t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t$
	10, 11	$[(a_{12345678})_{96_{10}}(b_{12345678})_{96_{10}}]_8, 8 t, a_{12 \cdot 56} \cdot b_{12 \cdot 56} \cdot t$
1152	1, 2	$[(a_{12345678})_{576_2}(b_{12345678})_{576_2}]_1, 1 t, a_{12} \cdot b_{12} \cdot t$
	3, 4	$[(a_{12345678})_{576_2}(b_{12345678})_{576_2}]_1, 1 t, a_{12} \cdot b_{12} \cdot t$
	5, 8	$[(a_{12345678})_{48_{16}}(b_{12345678})_{48_{16}}]_{12}, 12 t, a_{12 \cdot 56} \cdot t,$ $a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{16 \cdot 25 \cdot 37 \cdot 48} \cdot t$
	9	$[(a_{12345678})_{48_{16}}(b_{12345678})_{48_{16}}]_{12}, 12 t$
	10	$[(a_{12345678})_{48_{16}}(b_{12345678})_{48_{16}}]_{12}, 12 t$
	11	$[(a_{12345678})_{48_{16}}(b_{12345678})_{48_{16}}]_{12}, 12 t$
	12	$[(a_{12345678})_{24_9}(b_{12345678})_{24_9}]_t$
	13	$[(a_{12345678})_{24_{11}}(b_{12345678})_{24_{11}}]_t$
	14	$[(a_{12345678})_{24_{10}}(b_{12345678})_{24_{10}}]_t$
1024	1, 2	$[(a_{12345678})_{32_{10}}(b_{12345678})_{32_{10}}]_{16}, 16 t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t$
	3, 4	$[(a_{12345678})_{32_{10}}(b_{12345678})_{32_{10}}]_{16}, 16 t, a_{1324} \cdot t$
	5, 6	$[(a_{12345678})_{32_{10}}(b_{12345678})_{32_{10}}]_{16}, 16 t, a_{1324} \cdot t$
	7, 8	$[(a_{12345678})_{32_{11}}(b_{12345678})_{32_{11}}]_{16}, 16 t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t$
	9, 10	$[(a_{12345678})_{32_{11}}(b_{12345678})_{32_{11}}]_{16}, 16 t, a_{13 \cdot 24} \cdot t$
	11, 12	$[(a_{12345678})_{32_{11}}(b_{12345678})_{32_{11}}]_{16}, 16 t, a_{13 \cdot 24} \cdot t$
	13, 14	$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_{16}, 16 t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t$
	15, 16	$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_{16}, 16 t, a_{12 \cdot 56} \cdot t$
	17, 18	$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_{16}, 16 t, a_{12 \cdot 56} \cdot t$

Order	No.	
19, 20		$[(a_{12345678})_{32_{13}}(b_{12345678})_{32_{13}}]_{16, 16} t, a_{1735-2846} \cdot t$
21, 22		$[(a_{12345678})_{32_{13}}(b_{12345678})_{32_{13}}]_{16, 16} t, a_{12-56} \cdot t$
23, 24		$[(a_{12345678})_{32_{14}}(b_{12345678})_{32_{14}}]_{16, 16} t, a_{1625-37-48} \cdot t$
25, 26		$[(a_{12345678})_{32_{14}}(b_{12345678})_{32_{14}}]_{16, 16} t, a_{13-24-57-68} \cdot t$
27, 28		$[(a_{12345678})_{32_{15}}(b_{12345678})_{32_{15}}]_{16, 16} t, a_{17362845} \cdot t$
29, 30		$[(a_{12345678})_{32_{15}}(b_{12345678})_{32_{15}}]_{16, 16} t, a_{12-56} \cdot t$
31, 32		$[(a_{12345678})_{32_{17}}(b_{12345678})_{32_{17}}]_{16, 16} t, a_{12-5768} \cdot t$
33, 34		$[(a_{12345678})_{32_{17}}(b_{12345678})_{32_{17}}]_{16, 16} t, a_{15-26-37-48} \cdot t$
35, 36		$[(a_{12345678})_{32_{17}}(b_{12345678})_{32_{17}}]_{16, 16} t, a_{15-26-37-48} \cdot t$
37, 38		$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_{16, 16} t, a_{15-26-37-48} \cdot t$
39, 40		$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_{16, 16} t, a_{13-24-56} \cdot t$
41, 42		$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_{16, 16} t, a_{13-24-56} \cdot t$
43, 44		$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_{16, 16} t, a_{12-34} \cdot t$
45, 46		$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_{16, 16} t, a_{12-34} \cdot t$
47, 48		$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{8, 8} t, a_{13-24-57-68} \cdot t$
49, 50		$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{8, 8} t, a_{13-24-57-68} \cdot t$
51, 58		$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{8, 8} t, a_{1735-2846} \cdot t,$ $a_{12-56} \cdot t, a_{17-28-35-46} \cdot t, a_{1423-56} \cdot t, a_{12} \cdot b_{12} \cdot t,$ $a_{1324} \cdot b_{12} \cdot t, a_{13-24} \cdot t$
59, 60		$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{8, 8} t, a_{12-56} \cdot t$
61, 64		$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{8, 8} t, a_{1735-2846} \cdot t,$ $a_{12} \cdot b_{12} \cdot t, a_{1526-37-48} \cdot t$
65, 66		$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{8, 8} t, a_{13-24} \cdot t$
67, 68		$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{8, 8} t, a_{1423-56} \cdot t$
69, 70		$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{8, 8} t, a_{1735-2846} \cdot t$
71, 72		$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{8, 8} t, a_{1735-2846} \cdot t$
73, 74		$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{8, 8} t, a_{1735-2846} \cdot t$
75, 76		$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{8, 8} t, a_{13-24} \cdot t$
77, 80		$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{8, 8} t, a_{12-56} \cdot t,$ $a_{12} \cdot b_{12} \cdot t, a_{56} \cdot b_{12} \cdot t$
81, 82		$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{8, 8} t, a_{12-56} \cdot t$
83, 86		$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{8, 8} t, a_{12-56} \cdot t,$ $a_{12} \cdot b_{12} \cdot t, a_{56} \cdot b_{12} \cdot t$
87, 88		$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{8, 8} t, a_{12-56} \cdot t$



Order	No.	
89, 92		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_8, 8 \ t, a_{12 \cdot 34} \cdot t,$ $a_{12} \cdot b_{12} \cdot t, a_{34} \cdot b_{12} \cdot t$
93, 94		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_8, 8 \ t, a_{12 \cdot 34} \cdot t$
95, 98		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_8, 8 \ t, a_{12 \cdot 34} \cdot t,$ $a_{12} \cdot b_{12} \cdot t, a_{34} \cdot b_{12} \cdot t$
99, 100		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_8, 8 \ t, a_{12 \cdot 34} \cdot t$
101, 110		$[(a_{12345678})_{64_5}(b_{12345678})_{64_5}]_8, 8 \ t, a_{13 \cdot 24} \cdot t, a_{12 \cdot 56} \cdot t,$ $a_{1324 \cdot 56} \cdot t, a_{1625 \cdot 37 \cdot 48} \cdot t, a_{13 \cdot 24 \cdot 56} \cdot b_{12} \cdot t, a_{12} \cdot b_{12} \cdot t,$ $a_{56} \cdot b_{12} \cdot t, a_{17362345} \cdot t, a_{1324} \cdot b_{12} \cdot t$
111, 115		$[(a_{12345678})_{64_5}(b_{12345678})_{64_5}]_8, 8 \ t, a_{13 \cdot 24} \cdot t,$ $a_{1625 \cdot 37 \cdot 48} \cdot t, a_{12} \cdot b_{12} \cdot t, a_{1736 \cdot 2345} \cdot b_{12} \cdot t$
116, 119		$[(a_{12345678})_{64_5}(b_{12345678})_{64_5}]_8, 8 \ t, a_{12 \cdot 56} \cdot t,$ $a_{12} \cdot b_{12} \cdot t, a_{56} \cdot b_{12} \cdot t$
120, 121		$[(a_{12345678})_{64_5}(b_{12345678})_{64_5}]_8, 8 \ t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t$
122, 123		$[(a_{12345678})_{64_5}(b_{12345678})_{64_5}]_8, 8 \ t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t$
124, 127		$[(a_{12345678})_{64_5}(b_{12345678})_{64_5}]_8, 8 \ t, a_{12} \cdot b_{12} \cdot t,$ $a_{12 \cdot 56} \cdot t, a_{56} \cdot b_{12} \cdot t$
128, 129		$[(a_{12345678})_{64_5}(b_{12345678})_{64_5}]_8, 8 \ t, a_{12 \cdot 56} \cdot t$
130, 137		$[(a_{12345678})_{64_6}(b_{12345678})_{64_6}]_8, 8 \ t, a_{12} \cdot t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t,$ $a_{1423 \cdot 57 \cdot 68} \cdot t, a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t, a_{1423} \cdot b_{13 \cdot 24} \cdot t,$ $a_{12 \cdot 57 \cdot 68} \cdot b_{13 \cdot 24} \cdot t, a_{57 \cdot 68} \cdot b_{13 \cdot 24} \cdot t$
138, 141		$[(a_{12345678})_{64_6}(b_{12345678})_{64_6}]_8, 8 \ t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t,$ $a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t, a_{57 \cdot 68} \cdot b_{13 \cdot 24} \cdot t$
142, 145		$[(a_{12345678})_{64_6}(b_{12345678})_{64_6}]_8, 8 \ t, a_{12} \cdot t,$ $a_{1423 \cdot 57 \cdot 68} \cdot t, a_{1827 \cdot 35 \cdot 46} \cdot t$
146, 149		$[(a_{12345678})_{64_6}(b_{12345678})_{64_6}]_8, 8 \ t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t,$ $a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t, a_{16432537} \cdot b_{1324} \cdot t$
150, 153		$[(a_{12345678})_{64_6}(b_{12345678})_{64_6}]_8, 8 \ t, a_{12 \cdot 56} \cdot t,$ $a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t, a_{1423 \cdot 56} \cdot b_{13 \cdot 24} \cdot t$
154, 155		$[(a_{12345678})_{64_6}(b_{12345678})_{64_6}]_8, 8 \ t, a_{12 \cdot 56} \cdot t$
156, 159		$[(a_{12345678})_{64_6}(b_{12345678})_{64_6}]_8, 8 \ t, a_{12 \cdot 56} \cdot t,$ $a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t, a_{1423 \cdot 56} \cdot b_{13 \cdot 24} \cdot t$
160, 161		$[(a_{12345678})_{64_6}(b_{12345678})_{64_6}]_8, 8 \ t, a_{12 \cdot 56} \cdot t$

Order	No.
162, 171	$[(a_{12345678})_{64_7}(b_{12345678})_{64_7}]_8, 8 \ t, a_{12} \cdot t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t,$ $a_{1423 \cdot 57 \cdot 68} \cdot t, a_{1735 \cdot 2846} \cdot t, a_{18462735} \cdot t,$ $a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t, a_{1423} \cdot b_{13 \cdot 24} \cdot t, a_{57 \cdot 68} \cdot b_{13 \cdot 24} \cdot t,$ $a_{12 \cdot 57 \cdot 68} \cdot b_{13 \cdot 24} \cdot t$
172, 175	$[(a_{12345678})_{64_7}(b_{12345678})_{64_7}]_8, 8 \ t, a_{12} \cdot t,$ $a_{1735 \cdot 2846} \cdot t, a_{18462735} \cdot t$
176, 183	$[(a_{12345678})_{64_7}(b_{12345678})_{64_7}]_8, 8 \ t, a_{12} \cdot t,$ $a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t, a_{1423 \cdot 57 \cdot 68} \cdot t, a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t,$ $a_{1423} \cdot b_{13 \cdot 24} \cdot t, a_{57 \cdot 68} \cdot b_{13 \cdot 24} \cdot t, a_{12 \cdot 57 \cdot 68} \cdot b_{13 \cdot 24} \cdot t$
184, 185	$[(a_{12345678})_{64_7}(b_{12345678})_{64_7}]_8, 8 \ t, a_{12} \cdot 56 \cdot t$
186, 187	$[(a_{12345678})_{64_7}(b_{12345678})_{64_7}]_8, 8 \ t, a_{12} \cdot 56 \cdot t$
188, 191	$[(a_{12345678})_{64_7}(b_{12345678})_{64_7}]_8, 8 \ t, a_{12} \cdot 56 \cdot t,$ $a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t, a_{1423} \cdot b_{13 \cdot 24} \cdot t$
192, 193	$[(a_{12345678})_{64_7}(b_{12345678})_{64_7}]_8, 8 \ t, a_{12} \cdot 56 \cdot t$
194, 195	$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_8, 8 \ t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t$
196, 197	$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_8, 8 \ t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t$
198, 201	$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_8, 8 \ t, a_{12} \cdot 56 \cdot t, a_{12} \cdot b_{12} \cdot t,$ $a_{56} \cdot b_{12} \cdot t$
202, 203	$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_8, 8 \ t, a_{12} \cdot 56 \cdot t$
204, 211	$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_8, 8 \ t, a_{12} \cdot 56 \cdot t, a_{1324} \cdot t,$ $a_{14 \cdot 23 \cdot 56} \cdot t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{17362845} \cdot t, a_{12} \cdot b_{12} \cdot t,$ $a_{13 \cdot 24} \cdot b_{12} \cdot t$
212, 215	$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_8, 8 \ t, a_{12} \cdot 56 \cdot t,$ $a_{12} \cdot b_{12} \cdot t, a_{56} \cdot b_{12} \cdot t$
216, 219	$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_8, 8 \ t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t,$ $a_{12} \cdot b_{12} \cdot t, a_{1736} \cdot 2845 \cdot b_{12} \cdot t$
220, 221	$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_8, 8 \ t, a_{12} \cdot 56 \cdot t$
222, 223	$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_8, 8 \ t, a_{12} \cdot 56 \cdot t$
224, 225	$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_8, 8 \ t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t$
226, 227	$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_8, 8 \ t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t$
228, 229	$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_8, 8 \ t, a_{1324} \cdot t$
230, 231	$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_8, 8 \ t, a_{14 \cdot 23 \cdot 56} \cdot t$
232, 233	$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_8, 8 \ t, a_{1324} \cdot t$
234, 235	$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_8, 8 \ t, a_{14 \cdot 23 \cdot 56} \cdot t$



Order	No.	
236, 237		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_{8, 8} t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t$
238, 239		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_{8, 8} t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t$
240, 241		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_{8, 8} t, a_{12 \cdot 56} \cdot t$
242, 243		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_{8, 8} t, a_{12 \cdot 56} \cdot t$
244, 245		$[(a_{12345678})_{64_4}(b_{12345678})_{64_4}]_{8, 8} t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t$
246, 247		$[(a_{12345678})_{64_4}(b_{12345678})_{64_4}]_{8, 8} t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t$
248, 255		$[(a_{12345678})_{64_4}(b_{12345678})_{64_4}]_{8, 8} t, a_{1324} \cdot t,$ $a_{1625 \cdot 37 \cdot 48} \cdot t, a_{1735 \cdot 2846} \cdot t, a_{12} \cdot b_{12} \cdot t, a_{56} \cdot b_{12} \cdot t,$ $a_{13 \cdot 24} \cdot b_{12} \cdot t, a_{1423 \cdot 56} \cdot b_{12} \cdot t$
256, 263		$[(a_{12345678})_{64_4}(b_{12345678})_{64_4}]_{8, 8} t, a_{1324} \cdot t,$ $a_{1625 \cdot 37 \cdot 48} \cdot t, a_{1735 \cdot 2846} \cdot t, a_{12} \cdot b_{12} \cdot t, a_{56} \cdot b_{12} \cdot t,$ $a_{13 \cdot 24} \cdot b_{12} \cdot t, a_{1423 \cdot 56} \cdot b_{12} \cdot t$
264, 267		$[(a_{12345678})_{64_4}(b_{12345678})_{64_4}]_{8, 8} t, a_{1625 \cdot 37 \cdot 48} \cdot t,$ $a_{12} \cdot b_{12} \cdot t, a_{1735 \cdot 2846} \cdot t$
268, 271		$[(a_{12345678})_{64_4}(b_{12345678})_{64_4}]_{8, 8} t, a_{12 \cdot 56} \cdot t,$ $a_{12} \cdot b_{12} \cdot t, a_{56} \cdot b_{12} \cdot t$
272, 273		$[(a_{12345678})_{64_4}(b_{12345678})_{64_4}]_{8, 8} t, a_{12 \cdot 56} \cdot t$
274, 277		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{4, 4} t, a_{12 \cdot 56} \cdot t,$ $a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t, a_{1423 \cdot 5867} \cdot t$
278, 281		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{4, 4} t, a_{12 \cdot 56} \cdot t,$ $a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t, a_{1423 \cdot 5867} \cdot t$
282, 285		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{4, 4} t, a_{12 \cdot 56} \cdot t,$ $a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t, a_{1423 \cdot 5867} \cdot t$
286, 289		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{4, 4} t, a_{12 \cdot 56} \cdot t,$ $a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t, a_{1423 \cdot 5867} \cdot t$
290, 293		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{4, 4} t, a_{12 \cdot 56} \cdot t,$ $a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t, a_{1423 \cdot 5867} \cdot t$
294, 297		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{4, 4} t, a_{12 \cdot 56} \cdot t,$ $a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t, a_{1423 \cdot 5867} \cdot t$
298, 301		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{4, 4} t, a_{12 \cdot 56} \cdot t,$ $a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t, a_{1423 \cdot 5867} \cdot t$
302, 305		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{4, 4} t, a_{12 \cdot 56} \cdot t,$ $a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t, a_{1423 \cdot 5867} \cdot t$
306		$[(a_{12345678})_{128}(b_{12345678})_{128}]_{4, 4} t$

Order	No.	
	307	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{4, 4} t$
	308	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{4, 4} t$
	309	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{4, 4} t$
	310	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{4, 4} t$
	311	$[(a_{12345678})_{128}(b_{12345678})_{128}]_{4, 4} t$
896	1, 7	$[(a_{12345678})_{56}(b_{12345678})_{56}]_{8, 8} t, a_{1234567} \cdot t,$ $a_{1357246} \cdot t, a_{1473625} \cdot t, a_{1526374} \cdot t, a_{1642753} \cdot t,$ $a_{1765432} \cdot t$
768	1	$[(a_{12345678})_{48_{16}}(b_{12345678})_{48_{16}}]_{8, 8} t$
	2	$[(a_{12345678})_{48_{17}}(b_{12345678})_{48_{17}}]_{8, 8} t$
	3, 6	$[(a_{12345678})_{96_{10}}(b_{12345678})_{96_{10}}]_{4, 4} t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t,$ $a_{12 \cdot 56} \cdot b_{12 \cdot 56} \cdot t, a_{16 \cdot 25 \cdot 37 \cdot 48} \cdot b_{12 \cdot 56} \cdot t$
	7, 8	$[(a_{12345678})_{192_8}(b_{12345678})_{192_8}]_{2, 2} t, a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t$
	9, 10	$[(a_{12345678})_{192_4}(b_{12345678})_{192_4}]_{2, 2} t, a_{12} \cdot b_{12} \cdot t$
	11, 12	$[(a_{12345678})_{192_5}(b_{12345678})_{192_5}]_{2, 2} t, a_{12} \cdot b_{12} \cdot t$
	13, 14	$[(a_{12345678})_{384}(b_{12345678})_{384}]_{1, 1} t, a_{12 \cdot 34 \cdot 56 \cdot 78} \cdot t$
672	1	$[(a_{12345678})_{336}(b_{12345678})_{336}]_{1, 1} t$
576	1, 2	$[(a_{12345678})_{24_9}(b_{12345678})_{24_9}]_{12, 12} t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t$
	3, 4	$[(a_{12345678})_{24_{11}}(b_{12345678})_{24_{11}}]_{12, 12} t, a_{16 \cdot 25 \cdot 37 \cdot 48} \cdot t$
512	1	$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}] t$
	2	$[(a_{12345678})_{16_{25}}(b_{12345678})_{16_{25}}] t$
	3	$[(a_{12345678})_{16_{28}}(b_{12345678})_{16_{28}}] t$
	4	$[(a_{12345678})_{16_{26}}(b_{12345678})_{16_{26}}] t$
	5	$[(a_{12345678})_{16_{30}}(b_{12345678})_{16_{30}}] t$
	6	$[(a_{12345678})_{16_{29}}(b_{12345678})_{16_{29}}] t$
	7, 10	$[(a_{12345678})_{32_{10}}(b_{12345678})_{32_{10}}]_{8, 8} t, a_{1324} \cdot t,$ $a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{17362845} \cdot t$
	11	$[(a_{12345678})_{32_{10}}(b_{12345678})_{32_{10}}]_{8, 8} t$
	12	$[(a_{12345678})_{32_{10}}(b_{12345678})_{32_{10}}]_{8, 8} t$
	13	$[(a_{12345678})_{32_{10}}(b_{12345678})_{32_{10}}]_{8, 8} t$
	14, 17	$[(a_{12345678})_{32_{10}}(b_{12345678})_{32_{10}}]_{8, 8} t, a_{1324} \cdot t,$ $a_{12 \cdot 56} \cdot b_{12 \cdot 56} \cdot t, a_{34 \cdot 56} \cdot b_{12 \cdot 56} \cdot t$
	18, 21	$[(a_{12345678})_{32_{10}}(b_{12345678})_{32_{10}}]_{8, 8} t, a_{1324} \cdot t,$ $a_{12 \cdot 56} \cdot b_{12 \cdot 56} \cdot t, a_{34 \cdot 56} \cdot b_{12 \cdot 56} \cdot t$



Order	No.	
22, 25		$[(a_{12345678})_{32_{11}}(b_{12345678})_{32_{11}}]_8, 8\ t, a_{13 \cdot 24} \cdot t,$ $a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{1735 \cdot 2846} \cdot t$
26		$[(a_{12345678})_{32_{11}}(b_{12345678})_{32_{11}}]_8, 8\ t$
27		$[(a_{12345678})_{32_{11}}(b_{12345678})_{32_{11}}]_8, 8\ t$
28		$[(a_{12345678})_{32_{11}}(b_{12345678})_{32_{11}}]_8, 8\ t$
29, 32		$[(a_{12345678})_{32_{11}}(b_{12345678})_{32_{11}}]_8, 8\ t, a_{12 \cdot 34} \cdot t,$ $a_{13 \cdot 24} \cdot t, a_{14 \cdot 23} \cdot t$
33, 36		$[(a_{12345678})_{32_{11}}(b_{12345678})_{32_{11}}]_8, 8\ t, a_{12 \cdot 34} \cdot t,$ $a_{13 \cdot 24} \cdot t, a_{12 \cdot 56} \cdot b_{12 \cdot 56} \cdot t$
37		$[(a_{12345678})_{32_{11}}(b_{12345678})_{32_{11}}]_8, 8\ t$
38, 41		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_8, 8\ t, a_{15 \cdot 26} \cdot b_{15 \cdot 26} \cdot t,$ $a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t, a_{1753 \cdot 2846} \cdot t$
42, 47		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_8, 8\ t, a_{12} \cdot b_{12} \cdot t,$ $a_{12 \cdot 56} \cdot t, a_{56} \cdot b_{12} \cdot t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{1625 \cdot 37 \cdot 48} \cdot b_{12} \cdot t$
48, 51		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_8, 8\ t, a_{12 \cdot 56} \cdot t,$ $a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{16 \cdot 25 \cdot 37 \cdot 48} \cdot t$
52, 55		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_8, 8\ t, a_{12 \cdot 34} \cdot t,$ $a_{35 \cdot 46} \cdot b_{35 \cdot 46} \cdot t, a_{12 \cdot 3845} \cdot b_{35 \cdot 46} \cdot t$
56, 59		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_8, 8\ t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t,$ $a_{12 \cdot 56} \cdot t, a_{1324 \cdot 5768} \cdot t$
60		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_8, 8\ t$
61		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_8, 8\ t$
62		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_8, 8\ t$
63, 67		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_8, 8\ t, a_{12 \cdot 34} \cdot t, a_{34 \cdot 56} \cdot t,$ $a_{12 \cdot 35 \cdot 46} \cdot b_{12 \cdot 35 \cdot 46} \cdot t, a_{2845} \cdot b_{12 \cdot 35 \cdot 46} \cdot t$
68		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_8, 8\ t$
69, 73		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_8, 8\ t, a_{12 \cdot 56} \cdot t,$ $a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{12} \cdot b_{12} \cdot t, a_{1526 \cdot 37 \cdot 48} \cdot b_{12} \cdot t$
74		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_8, 8\ t$
75, 79		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_8, 8\ t, a_{12 \cdot 34} \cdot t,$ $a_{12 \cdot 56} \cdot t, a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t, a_{1423 \cdot 56} \cdot b_{13 \cdot 24} \cdot t$
80		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_8, 8\ t$
81, 83		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_8, 8\ t, a_{12 \cdot 34} \cdot t,$ $a_{12 \cdot 35 \cdot 46} \cdot b_{12 \cdot 35 \cdot 46} \cdot t$

Order °	No.	
84, 87		$[(a_{12345678})_{32_{13}}(b_{12345678})_{32_{13}}]_{8, 8} t, a_{1735 \cdot 2846} \cdot t,$ $a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t, a_{57 \cdot 68} \cdot b_{13 \cdot 24} \cdot t$
88, 91		$[(a_{12345678})_{32_{13}}(b_{12345678})_{32_{13}}]_{8, 8} t, a_{12 \cdot 56} \cdot t,$ $a_{1735 \cdot 2846} \cdot t, a_{12} \cdot b_{12} \cdot t$
92		$[(a_{12345678})_{32_{18}}(b_{12345678})_{32_{18}}]_{8, 8} t$
93, 96		$[(a_{12345678})_{32_{13}}(b_{12345678})_{32_{13}}]_{8, 8} t, a_{1735 \cdot 2846} \cdot t,$ $a_{12} \cdot b_{12} \cdot t, a_{1324 \cdot 57 \cdot 68} \cdot b_{12} \cdot t$
97, 101		$[(a_{12345678})_{32_{14}}(b_{12345678})_{32_{14}}]_{8, 8} t, a_{12 \cdot 56} \cdot t,$ $a_{1625 \cdot 37 \cdot 48} \cdot t, a_{12} \cdot b_{12} \cdot t, a_{56} \cdot b_{12} \cdot t$
102, 104		$[(a_{12345678})_{32_{14}}(b_{12345678})_{32_{14}}]_{8, 8} t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t,$ $a_{1625 \cdot 37 \cdot 48} \cdot t$
105		$[(a_{12345678})_{32_{14}}(b_{12345678})_{32_{14}}]_{8, 8} t$
106, 108		$[(a_{12345678})_{32_{14}}(b_{12345678})_{32_{14}}]_{8, 8} t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t,$ $a_{1625 \cdot 37 \cdot 48} \cdot t$
109, 113		$[(a_{12345678})_{32_{15}}(b_{12345678})_{32_{15}}]_{8, 8} t, a_{57 \cdot 68} \cdot b_{13 \cdot 24} \cdot t,$ $a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t, a_{17362845} \cdot t$
114, 118		$[(a_{12345678})_{32_{15}}(b_{12345678})_{32_{15}}]_{8, 8} t, a_{12 \cdot 56} \cdot t,$ $a_{17362845} \cdot t, a_{12} \cdot b_{12} \cdot t, a_{56} \cdot b_{12} \cdot t$
119, 123		$[(a_{12345678})_{32_{15}}(b_{12345678})_{32_{15}}]_{8, 8} t, a_{12 \cdot 56} \cdot t,$ $a_{17362845} \cdot t, a_{12} \cdot b_{12} \cdot t, a_{56} \cdot b_{12} \cdot t$
124		$[(a_{12345678})_{32_{15}}(b_{12345678})_{32_{15}}]_{8, 8} t$
125, 128		$[(a_{12345678})_{32_{17}}(b_{12345678})_{32_{17}}]_{8, 8} t, a_{12 \cdot 5768} \cdot t,$ $a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t, a_{14 \cdot 23} \cdot b_{13 \cdot 24} \cdot t$
129, 132		$[(a_{12345678})_{32_{17}}(b_{12345678})_{32_{17}}]_{8, 8} t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t,$ $a_{12 \cdot 5768} \cdot t, a_{1736 \cdot 2845} \cdot t$
133		$[(a_{12345678})_{32_{17}}(b_{12345678})_{32_{17}}]_{8, 8} t$
134		$[(a_{12345678})_{32_{17}}(b_{12345678})_{32_{17}}]_{8, 8} t$
135		$[(a_{12345678})_{32_{17}}(b_{12345678})_{32_{17}}]_{8, 8} t$
136, 139		$[(a_{12345678})_{32_{17}}(b_{12345678})_{32_{17}}]_{8, 8} t, a_{12 \cdot 5768} \cdot t,$ $a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t, a_{1537 \cdot 2648} \cdot b_{13 \cdot 24} \cdot t$
140, 143		$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_{8, 8} t, a_{13 \cdot 24 \cdot 56} \cdot t,$ $a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{17352846} \cdot t$
144		$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_{8, 8} t$
145		$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_{8, 8} t$



Order	No.	
	146	$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_{8, 8} t$
147, 150		$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_{8, 8} t, a_{12 \cdot 34} \cdot t,$ $a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{1625 \cdot 3847} \cdot t$
151		$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_{8, 8} t$
152		$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_{8, 8} t$
153		$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_{8, 8} t$
154, 157		$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_{8, 8} t, a_{12 \cdot 34} \cdot t,$ $a_{13 \cdot 24 \cdot 56} \cdot t, a_{1324} \cdot b_{1324} \cdot t$
158		$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_{8, 8} t$
159, 162		$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_{8, 8} t, a_{12 \cdot 34} \cdot t,$ $a_{13 \cdot 24 \cdot 56} \cdot t, a_{1324} \cdot b_{1324} \cdot t$
163		$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_{8, 8} t$
164, 167		$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_{8, 8} t, a_{12 \cdot 34} \cdot t,$ $a_{13 \cdot 24 \cdot 56} \cdot t, a_{14 \cdot 23 \cdot 56} \cdot t$
168		$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_{8, 8} t$
169		$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_{8, 8} t$
170		$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_{8, 8} t$
171, 178		$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{4, 4} t, a_{12 \cdot 56} \cdot t,$ $a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t, a_{1423 \cdot 5867} \cdot t, a_{12} \cdot b_{12} \cdot t, a_{56} \cdot b_{12} \cdot t,$ $a_{1324 \cdot 57 \cdot 68} \cdot b_{12} \cdot t, a_{14 \cdot 23 \cdot 5867} \cdot b_{12} \cdot t$
179, 182		$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{4, 4} t, a_{12 \cdot 56} \cdot t,$ $a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t, a_{1423 \cdot 5867} \cdot t$
183		$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{4, 4} t$
184, 191		$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{4, 4} t, a_{12 \cdot 56} \cdot t,$ $a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t, a_{1423 \cdot 5867} \cdot t, a_{12} \cdot b_{12} \cdot t, a_{56} \cdot b_{12} \cdot t,$ $a_{1324 \cdot 57 \cdot 68} \cdot b_{12} \cdot t, a_{14 \cdot 23 \cdot 5867} \cdot b_{12} \cdot t$
192		$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{4, 4} t$
193, 196		$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{4, 4} t, a_{12 \cdot 34} \cdot t,$ $a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{1625 \cdot 3847} \cdot t$
197, 200		$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{4, 4} t, a_{12 \cdot 34} \cdot t,$ $a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{1625 \cdot 3847} \cdot t$
201, 204		$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{4, 4} t, a_{12 \cdot 34} \cdot t,$ $a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{1625 \cdot 3847} \cdot t$
205, 208		$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_{4, 4} t, a_{12 \cdot 34} \cdot t,$ $a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{1625 \cdot 3847} \cdot t$

Order	No.
209, 212	$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_4, 4t, a_{12 \cdot 34} \cdot t,$ $a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{1625 \cdot 3847} \cdot t$
213, 216	$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_4, 4t, a_{12 \cdot 34} \cdot t,$ $a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{1625 \cdot 3847} \cdot t$
217	$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_4, 4t$
218	$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_4, 4t$
219	$[(a_{12345678})_{64_3}(b_{12345678})_{64_3}]_4, 4t$
220, 227	$[(a_{12345678})_{64_5}(b_{12345678})_{64_5}]_4, 4t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t,$ $a_{12 \cdot 56} \cdot t, a_{1324 \cdot 5768} \cdot t, a_{12} \cdot b_{12} \cdot t, a_{1324 \cdot 57 \cdot 68} \cdot b_{12} \cdot t,$ $a_{56} \cdot b_{12} \cdot t, a_{13 \cdot 24 \cdot 5768} \cdot b_{12} \cdot t$
228, 235	$[(a_{12345678})_{64_5}(b_{12345678})_{64_5}]_4, 4t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t,$ $a_{12 \cdot 56} \cdot t, a_{1324 \cdot 5768} \cdot t, a_{12} \cdot b_{12} \cdot t, a_{1324 \cdot 57 \cdot 68} \cdot b_{12} \cdot t,$ $a_{56} \cdot b_{12} \cdot t, a_{13 \cdot 24 \cdot 5768} \cdot b_{12} \cdot t$
236	$[(a_{12345678})_{64_5}(b_{12345678})_{64_5}]_4, 4t$
237, 244	$[(a_{12345678})_{64_6}(b_{12345678})_{64_6}]_4, 4t, a_{12 \cdot 56} \cdot t, a_{12} \cdot t,$ $a_{56} \cdot t, a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t, a_{1423 \cdot 56} \cdot b_{13 \cdot 24} \cdot t, a_{1423} \cdot b_{13 \cdot 24} \cdot t,$ $a_{13 \cdot 24 \cdot 56} \cdot b_{13 \cdot 24} \cdot t$
245, 248	$[(a_{12345678})_{64_6}(b_{12345678})_{64_6}]_4, 4t, a_{12 \cdot 56} \cdot t, a_{12} \cdot t, a_{56} \cdot t$
249, 252	$[(a_{12345678})_{64_6}(b_{12345678})_{64_6}]_4, 4t, a_{12 \cdot 56} \cdot t, a_{12} \cdot t, a_{56} \cdot t$
253, 254	$[(a_{12345678})_{64_6}(b_{12345678})_{64_6}]_4, 4t, a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t$
255	$[(a_{12345678})_{64_6}(b_{12345678})_{64_6}]_4, 4t$
256, 263	$[(a_{12345678})_{64_7}(b_{12345678})_{64_7}]_4, 4t, a_{12 \cdot 56} \cdot t,$ $a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t, a_{1423 \cdot 5867} \cdot t, a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t,$ $a_{1423 \cdot 56} \cdot b_{13 \cdot 24} \cdot t, a_{57 \cdot 68} \cdot b_{13 \cdot 24} \cdot t, a_{12 \cdot 5867} \cdot b_{13 \cdot 24} \cdot t$
264, 271	$[(a_{12345678})_{64_7}(b_{12345678})_{64_7}]_4, 4t, a_{12 \cdot 56} \cdot t,$ $a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t, a_{1423 \cdot 5867} \cdot t, a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t,$ $a_{1423 \cdot 56} \cdot b_{13 \cdot 24} \cdot t, a_{57 \cdot 68} \cdot b_{13 \cdot 24} \cdot t, a_{12 \cdot 5867} \cdot b_{13 \cdot 24} \cdot t$
272	$[(a_{12345678})_{64_7}(b_{12345678})_{64_7}]_4, 4t$
273, 280	$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_4, 4t, a_{1423 \cdot 5867} \cdot t,$ $a_{12 \cdot 56} \cdot t, a_{14 \cdot 23 \cdot 58 \cdot 67} \cdot t, a_{12} \cdot b_{12} \cdot t, a_{14 \cdot 23 \cdot 5867} \cdot b_{12} \cdot t,$ $a_{56} \cdot b_{12} \cdot t, a_{1423 \cdot 58 \cdot 67} \cdot b_{12} \cdot t$
281, 284	$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_4, 4t, a_{1423 \cdot 5867} \cdot t,$ $a_{12 \cdot 56} \cdot t, a_{14 \cdot 23 \cdot 58 \cdot 67} \cdot t$



Order	No.	
285, 292		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_4, 4 t, a_{1423 \cdot 5867} \cdot t,$ $a_{12 \cdot 56} \cdot t, a_{14 \cdot 23 \cdot 58 \cdot 67} \cdot t, a_{12} \cdot b_{12} \cdot t, a_{14 \cdot 23 \cdot 5867} \cdot b_{12} \cdot t,$ $a_{56} \cdot b_{12} \cdot t, a_{1423 \cdot 58 \cdot 67} \cdot b_{12} \cdot t$
293		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_4, 4 t$
294		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_4, 4 t$
295, 298		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_4, 4 t, a_{12 \cdot 34} \cdot t,$ $a_{16 \cdot 25 \cdot 37 \cdot 48} \cdot t, a_{1526 \cdot 3847} \cdot t$
299, 302		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_4, 4 t, a_{12 \cdot 34} \cdot t,$ $a_{16 \cdot 25 \cdot 37 \cdot 48} \cdot t, a_{1526 \cdot 3847} \cdot t$
303, 306		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_4, 4 t, a_{12 \cdot 34} \cdot t,$ $a_{16 \cdot 25 \cdot 37 \cdot 48} \cdot t, a_{1526 \cdot 3847} \cdot t$
307, 310		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_4, 4 t, a_{12 \cdot 34} \cdot t,$ $a_{16 \cdot 25 \cdot 37 \cdot 48} \cdot t, a_{1526 \cdot 3847} \cdot t$
311, 314		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_4, 4 t, a_{12 \cdot 34} \cdot t,$ $a_{16 \cdot 25 \cdot 37 \cdot 48} \cdot t, a_{1526 \cdot 3847} \cdot t$
315, 318		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_4, 4 t, a_{12 \cdot 34} \cdot t,$ $a_{16 \cdot 25 \cdot 37 \cdot 48} \cdot t, a_{1526 \cdot 3847} \cdot t$
319		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_4, 4 t$
320		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_4, 4 t$
321		$[(a_{12345678})_{64_2}(b_{12345678})_{64_2}]_4, 4 t$
322, 329		$[(a_{12345678})_{64_4}(b_{12345678})_{64_4}]_4, 4 t, a_{12 \cdot 56} \cdot t,$ $a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t, a_{1423 \cdot 5867} \cdot t, a_{12} \cdot b_{12} \cdot t, a_{56} \cdot b_{12} \cdot t,$ $a_{1324 \cdot 57 \cdot 68} \cdot t, a_{14 \cdot 23 \cdot 5867} \cdot b_{12} \cdot t$
330, 337		$[(a_{12345678})_{64_4}(b_{12345678})_{64_4}]_4, 4 t, a_{12 \cdot 56} \cdot t,$ $a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t, a_{1423 \cdot 5867} \cdot t, a_{12} \cdot b_{12} \cdot t, a_{56} \cdot b_{12} \cdot t,$ $a_{1324 \cdot 57 \cdot 68} \cdot b_{12} \cdot t, a_{14 \cdot 23 \cdot 5867} \cdot b_{12} \cdot t$
338		$[(a_{12345678})_{64_4}(b_{12345678})_{64_4}]_4, 4 t$
339, 340		$[(a_{12345678})_{128}(b_{12345678})_{128}]_2, 2 t, a_{12 \cdot 34} \cdot t$
341, 342		$[(a_{12345678})_{128}(b_{12345678})_{128}]_2, 2 t, a_{12 \cdot 34} \cdot t$
343, 344		$[(a_{12345678})_{128}(b_{12345678})_{128}]_2, 2 t, a_{12 \cdot 34} \cdot t$
345, 346		$[(a_{12345678})_{128}(b_{12345678})_{128}]_2, 2 t, a_{12 \cdot 34} \cdot t$
347, 348		$[(a_{12345678})_{128}(b_{12345678})_{128}]_2, 2 t, a_{12 \cdot 34} \cdot t$
349, 350		$[(a_{12345678})_{128}(b_{12345678})_{128}]_2, 2 t, a_{12 \cdot 34} \cdot t$
351, 352		$[(a_{12345678})_{128}(b_{12345678})_{128}]_2, 2 t, a_{12 \cdot 34} \cdot t$

Order	No.	
	353, 354	$[(a_{12345678})_{128}(b_{12345678})_{128}]_2, 2t, a_{12 \cdot 34} \cdot t$
384	1	$[(a_{12345678})_{192_2}(b_{12345678})_{192_2}]_1, 1t$
	2, 5	$[(a_{12345678})_{192_3}(b_{12345678})_{192_3}]_1, 1t, a_{12 \cdot 34 \cdot 56 \cdot 78} \cdot t,$ $a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t, a_{14 \cdot 23 \cdot 56 \cdot 78} \cdot b_{13 \cdot 24} \cdot t$
	6, 9	$[(a_{12345678})_{192_4}(b_{12345678})_{192_4}]_1, 1t, a_{12 \cdot 34 \cdot 56 \cdot 78} \cdot t,$ $a_{12} \cdot b_{12} \cdot t, a_{34 \cdot 56 \cdot 78} \cdot b_{12} \cdot t$
	10, 13	$[(a_{12345678})_{192_4}(b_{12345678})_{192_4}]_1, 1t, a_{12 \cdot 34 \cdot 56 \cdot 78} \cdot t,$ $a_{12} \cdot b_{12} \cdot t, a_{34 \cdot 56 \cdot 78} \cdot b_{12} \cdot t$
	14, 17	$[(a_{12345678})_{192_5}(b_{12345678})_{192_5}]_1, 1t, a_{12 \cdot 34 \cdot 56 \cdot 78} \cdot t,$ $a_{12} \cdot b_{12} \cdot t, a_{34 \cdot 56 \cdot 78} \cdot b_{12} \cdot t$
	18, 21	$[(a_{12345678})_{192_5}(b_{12345678})_{192_5}]_1, 1t, a_{12 \cdot 34 \cdot 56 \cdot 78} \cdot t,$ $a_{12} \cdot b_{12} \cdot t, a_{34 \cdot 56 \cdot 78} \cdot b_{12} \cdot t$
	22, 25	$[(a_{12345678})_{96_{12}}(b_{12345678})_{96_{12}}]_2, 2t, a_{12} \cdot b_{12} \cdot t,$ $a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t, a_{1423} \cdot b_{1423} \cdot t$
	26, 27	$[(a_{12345678})_{48_{16}}(b_{12345678})_{48_{16}}]_4, 4t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t$
	28, 29	$[(a_{12345678})_{48_{16}}(b_{12345678})_{48_{16}}]_4, 4t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t$
	30, 32	$[(a_{12345678})_{24_{10}}(b_{12345678})_{24_{10}}]_8, 8t, a_{135 \cdot 246} \cdot t,$ $a_{13 \cdot 24 \cdot 78} \cdot b_{13 \cdot 24 \cdot 78} \cdot t$
	33, 34	$[(a_{12345678})_{24_9}(b_{12345678})_{24_9}]_8, 8t, a_{12 \cdot 56} \cdot b_{12 \cdot 56} \cdot t$
336	1	$[(a_{12345678})_{168_2}(b_{12345678})_{168_2}]_1, 1t$
	2, 3	$[(a_{12345678})_{168_1}(b_{12345678})_{168_1}]_1, 1t, a_{15642378} \cdot b_{15642378} \cdot t$
256	1, 2	$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_8, 8t, a_{12 \cdot 56} \cdot t$
	3, 4	$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_8, 8t, a_{1324 \cdot 5768} \cdot t$
	5, 6	$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_8, 8t, a_{12 \cdot 56} \cdot t$
	7, 8	$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_8, 8t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t$
	9, 10	$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_8, 8t, a_{12 \cdot 56} \cdot t$
	11, 12	$[(a_{12345678})_{16_{25}}(b_{12345678})_{16_{25}}]_8, 8t, a_{1625 \cdot 3847} \cdot t$
	13, 14	$[(a_{12345678})_{16_{25}}(b_{12345678})_{16_{25}}]_8, 8t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t$
	15, 16	$[(a_{12345678})_{16_{25}}(b_{12345678})_{16_{25}}]_8, 8t, a_{12 \cdot 56} \cdot t$
	17, 18	$[(a_{12345678})_{16_{25}}(b_{12345678})_{16_{25}}]_8, 8t, a_{12 \cdot 56} \cdot t$
	19, 20	$[(a_{12345678})_{16_{25}}(b_{12345678})_{16_{25}}]_8, 8t, a_{12 \cdot 56} \cdot t$
	21, 22	$[(a_{12345678})_{16_{23}}(b_{12345678})_{16_{23}}]_8, 8t, a_{1735 \cdot 2846} \cdot t$
	23, 24	$[(a_{12345678})_{16_{23}}(b_{12345678})_{16_{23}}]_8, 8t, a_{12 \cdot 34} \cdot t$
	25, 26	$[(a_{12345678})_{16_{26}}(b_{12345678})_{16_{26}}]_8, 8t, a_{17362845} \cdot t$



Order	No.	
27, 28		$[(a_{12345678})_{16_{26}}(b_{12345678})_{16_{26}}]_{8, 8} t, a_{12-34} \cdot t$
29, 30		$[(a_{12345678})_{16_{30}}(b_{12345678})_{16_{30}}]_{8, 8} t, a_{15-26-37-48} \cdot t$
31, 32		$[(a_{12345678})_{16_{30}}(b_{12345678})_{16_{30}}]_{8, 8} t, a_{13-24-56} \cdot t$
33, 34		$[(a_{12345678})_{16_{30}}(b_{12345678})_{16_{30}}]_{8, 8} t, a_{15-26-37-48} \cdot t$
35, 36		$[(a_{12345678})_{16_{29}}(b_{12345678})_{16_{29}}]_{8, 8} t, a_{1625-3847} \cdot t$
37, 38		$[(a_{12345678})_{16_{29}}(b_{12345678})_{16_{29}}]_{8, 8} t, a_{13-24-56} \cdot t$
39, 42		$[(a_{12345678})_{32_{10}}(b_{12345678})_{32_{10}}]_{4, 4} t, a_{12-34} \cdot t,$ $a_{12-56} \cdot b_{12-56} \cdot t, a_{34-56} \cdot b_{12-56} \cdot t$
43, 44		$[(a_{12345678})_{32_{10}}(b_{12345678})_{32_{10}}]_{4, 4} t, a_{12-34} \cdot t$
45, 46		$[(a_{12345678})_{32_{10}}(b_{12345678})_{32_{10}}]_{4, 4} t, a_{1324-5768} \cdot t$
47, 52		$[(a_{12345678})_{32_{10}}(b_{12345678})_{32_{10}}]_{4, 4} a_{15-26-37-48} \cdot t,$ $a_{17362945} \cdot t, a_{12-56} \cdot b_{12-56} \cdot t, a_{34-56} \cdot b_{12-56} \cdot t,$ $a_{16-25-37-48} \cdot b_{12-56} \cdot t, a_{1626-3847} \cdot b_{12-56} \cdot t$
53, 56		$[(a_{12345678})_{32_{10}}(b_{12345678})_{32_{10}}]_{4, 4} t, a_{12-34} \cdot t,$ $a_{12-56} \cdot b_{12-56} \cdot t, a_{34-56} \cdot b_{12-56} \cdot t$
57, 62		$[(a_{12345678})_{32_{11}}(b_{12345678})_{32_{11}}]_{4, 4} t, a_{12-34} \cdot t,$ $a_{15-26-37-48} \cdot t, a_{1625-3847} \cdot t, a_{12-56} \cdot b_{12-56} \cdot t,$ $a_{16-25-37-48} \cdot b_{12-56} \cdot t$
63, 65		$[(a_{12345678})_{32_{11}}(b_{12345678})_{32_{11}}]_{4, 4} a_{12-34} \cdot t,$ $a_{12-56} \cdot b_{12-56} \cdot t, a_{1846-2735} \cdot b_{12-56} \cdot t$
66, 67		$[(a_{12345678})_{32_{11}}(b_{12345678})_{32_{11}}]_{4, 4} t, a_{12-34} \cdot t$
68, 70		$[(a_{12345678})_{32_{11}}(b_{12345678})_{32_{11}}]_{4, 4} t, a_{12-34} \cdot t,$ $a_{12-56} \cdot b_{12-56} \cdot t$
71, 72		$[(a_{12345678})_{32_{11}}(b_{12345678})_{32_{11}}]_{4, 4} t, a_{13-24-57-68} \cdot t$
73, 74		$[(a_{12345678})_{32_{11}}(b_{12345678})_{32_{11}}]_{4, 4} t, a_{12-34} \cdot t$
75, 85		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_{4, 4} t, a_{13-24-57-68} \cdot t,$ $a_{12-56} \cdot t, a_{1324-5768} \cdot t, a_{15-26-37-48} \cdot t, a_{12} \cdot b_{12} \cdot t,$ $a_{1423-57-68} \cdot b_{12} \cdot t, a_{13-24} \cdot b_{13-24} \cdot t, a_{1423-56} \cdot b_{13-24} \cdot t,$ $a_{1423} \cdot b_{1423} \cdot t, a_{34-57-68} \cdot b_{1423} \cdot t$
86, 87		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_{4, 4} t, a_{15-26-37-48} \cdot t$
88, 89		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_{4, 4} t, a_{13-24-57-68} \cdot t$
90, 92		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_{4, 4} t, a_{1324-5768} \cdot t,$ $a_{15-26-37-48} \cdot t$
93, 94		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_{4, 4} t, a_{15-26-37-48} \cdot t$

Order	No.	
95, 96		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_4, 4t, a_{12 \cdot 56} \cdot t$
97, 98		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_4, 4t, a_{1324 \cdot 5768} \cdot t$
99, 106		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_4, 4t, a_{12 \cdot 34} \cdot t,$ $a_{12 \cdot 56} \cdot t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{1625 \cdot 3847} \cdot t, a_{16 \cdot 25 \cdot 37 \cdot 48} \cdot t,$ $a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t, a_{1537 \cdot 2648} \cdot b_{13 \cdot 24} \cdot t$
107, 110		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_4, 4t, a_{12 \cdot 56} \cdot t,$ $a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t, a_{1637 \cdot 2548} \cdot b_{13 \cdot 24} \cdot t$
111, 112		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_4, 4t, a_{12 \cdot 34} \cdot t$
113, 114		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_4, 4t, a_{12 \cdot 34} \cdot t$
115, 118		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_4, 4t, a_{12 \cdot 34} \cdot t,$ $a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t, a_{1537 \cdot 2648} \cdot t$
119, 120		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_4, 4t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t$
121, 122		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_4, 4t, a_{1625 \cdot 3847} \cdot t$
123, 124		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_4, 4t, a_{12 \cdot 56} \cdot t$
125, 126		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_4, 4t, a_{12 \cdot 56} \cdot t$
127, 128		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_4, 4t, a_{34 \cdot 56} \cdot t$
129, 130		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_4, 4t, a_{34 \cdot 56} \cdot t$
131, 138		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_4, 4t, a_{12 \cdot 34} \cdot t,$ $a_{12 \cdot 56} \cdot t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{16 \cdot 25 \cdot 37 \cdot 48} \cdot t, a_{1526 \cdot 3847} \cdot t,$ $a_{1423} \cdot b_{1423} \cdot t, a_{16482537} \cdot b_{1423} \cdot t$
139, 142		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_4, 4t, a_{12 \cdot 56} \cdot t,$ $a_{1423} \cdot b_{1423} \cdot t, a_{15482637} \cdot b_{1423} \cdot t$
143, 144		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_4, 4t, a_{12 \cdot 34} \cdot t$
145, 148		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_4, 4t, a_{12 \cdot 34} \cdot t,$ $a_{1423} \cdot b_{1423} \cdot t, a_{1324} \cdot b_{1423} \cdot t$
149, 150		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_4, 4t, a_{12 \cdot 34} \cdot t$
151, 152		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_4, 4t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t$
153, 154		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_4, 4t, a_{16 \cdot 25 \cdot 37 \cdot 48} \cdot t$
155, 156		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_4, 4t, a_{12 \cdot 56} \cdot t$
157, 158		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_4, 4t, a_{34 \cdot 56} \cdot t$
159, 160		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_4, 4t, a_{12 \cdot 56} \cdot t$
161, 162		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_4, 4t, a_{12 \cdot 56} \cdot t$
163, 169		$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_4, 4t, a_{1735 \cdot 2846} \cdot t,$ $a_{12 \cdot 56} \cdot t, a_{56} \cdot b_{12} \cdot t, a_{57 \cdot 68} \cdot b_{13 \cdot 24} \cdot t, a_{12 \cdot 5867} \cdot b_{13 \cdot 24} \cdot t,$ $a_{34 \cdot 57 \cdot 68} \cdot b_{1423} \cdot t, a_{1423 \cdot 56} \cdot b_{13 \cdot 24} \cdot t$



Order	No.	
	170	$[(a_{12345678})_{32,13}(b_{12345678})_{32,13}]_4, 4 a_{1735-2846} \cdot t$
	171, 172	$[(a_{12345678})_{32,13}(b_{12345678})_{32,13}]_4, 4 t, a_{12-34} \cdot t$
	173, 174	$[(a_{12345678})_{32,13}(b_{12345678})_{32,13}]_4, 4 t, a_{12-34} \cdot t$
	175, 182	$[(a_{12345678})_{32,14}(b_{12345678})_{32,14}]_4, 4 a_{12-56} \cdot t, a_{1324-5768} \cdot t,$ $a_{56} \cdot b_{12} \cdot t, a_{13-24-5768} \cdot b_{12} \cdot t, a_{1423-56} \cdot b_{13-24} \cdot t,$ $a_{34-5768} \cdot b_{13-24} \cdot t, a_{13-24-56} \cdot b_{1423} \cdot t, a_{5768} \cdot b_{1423} \cdot t$
	183, 185	$[(a_{12345678})_{32,14}(b_{12345678})_{32,14}]_4, 4 t, a_{12-56} \cdot t,$ $a_{1625-37-48} \cdot t$
	186	$[(a_{12345678})_{32,14}(b_{12345678})_{32,14}]_4, 4 a_{12-34} \cdot t$
	187, 188	$[(a_{12345678})_{32,15}(b_{12345678})_{32,15}]_4, 4 a_{17362845} \cdot t,$ $a_{12-34-5867} \cdot b_{1423} \cdot t$
	189, 191	$[(a_{12345678})_{32,15}(b_{12345678})_{32,15}]_4, 4 t, a_{1423-5867} \cdot t,$ $a_{17362845} \cdot t$
	192, 195	$[(a_{12345678})_{32,15}(b_{12345678})_{32,15}]_4, 4 t, a_{12-34} \cdot t,$ $a_{1423} \cdot b_{1423} \cdot t, a_{1324} \cdot b_{1423} \cdot t$
	196, 199	$[(a_{12345678})_{32,15}(b_{12345678})_{32,15}]_4, 4 t, a_{12-34} \cdot t,$ $a_{1423} \cdot b_{1423} \cdot t, a_{1324} \cdot b_{1423} \cdot t$
	200, 206	$[(a_{12345678})_{32,17}(b_{12345678})_{32,17}]_4, 4 a_{12-5768} \cdot t,$ $a_{15-26-37-48} \cdot t, a_{1648-2537} \cdot t, a_{13-24} \cdot b_{13-24} \cdot t,$ $a_{14-23} \cdot b_{13-24} \cdot t, a_{1537-2648} \cdot b_{13-24} \cdot t, a_{1647-2538} \cdot b_{13-24} \cdot t$
	207, 210	$[(a_{12345678})_{32,17}(b_{12345678})_{32,17}]_4, 4 t, a_{12-5768} \cdot t,$ $a_{13-24} \cdot b_{13-24} \cdot t, a_{1648-2537} \cdot t$
	211, 214	$[(a_{12345678})_{32,17}(b_{12345678})_{32,17}]_4, 4 t, a_{12-34} \cdot t,$ $a_{13-24} \cdot b_{13-24} \cdot t, a_{14-23} \cdot b_{13-24} \cdot t$
	215, 218	$[(a_{12345678})_{32,17}(b_{12345678})_{32,17}]_4, 4 t, a_{13-24-57-68} \cdot t,$ $a_{13-24} \cdot b_{13-24} \cdot t, a_{57-68} \cdot b_{13-24} \cdot t$
	219, 221	$[(a_{12345678})_{32,17}(b_{12345678})_{32,17}]_4, 4 a_{13-24-57-68} \cdot t,$ $a_{13-24} \cdot b_{13-24} \cdot t, a_{57-68} \cdot b_{13-24} \cdot t$
	222, 225	$[(a_{12345678})_{32,17}(b_{12345678})_{32,17}]_4, 4 t, a_{13-24-57-68} \cdot t,$ $a_{13-24} \cdot b_{13-24} \cdot t, a_{57-68} \cdot b_{13-24} \cdot t$
	226, 233	$[(a_{12345678})_{32,16}(b_{12345678})_{32,16}]_4, 4 t, a_{12-34} \cdot t,$ $a_{13-24-56} \cdot t, a_{15-26-37-48} \cdot t, a_{1625-3847} \cdot t, a_{17362846} \cdot t,$ $a_{1324} \cdot b_{1324} \cdot t, a_{15372648} \cdot b_{1324} \cdot t$
	234, 236	$[(a_{12345678})_{32,16}(b_{12345678})_{32,16}]_4, 4 a_{13-24-56} \cdot t,$ $a_{1324} \cdot b_{1324} \cdot t, a_{1728-3546} \cdot b_{1324} \cdot t$

Order	No.	
	237, 238	$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_4, 4 t, a_{12 \cdot 34} \cdot t$
	239, 240	$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_4, 4 t, a_{12 \cdot 34} \cdot t$
	241, 244	$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_4, 4 t, a_{12 \cdot 34} \cdot t,$ $a_{1324} \cdot b_{1324} \cdot t, a_{1423} \cdot b_{1324} \cdot t$
	245	$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_4, 4 a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t$
	246	$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_4, 4 a_{1625 \cdot 3847} \cdot t$
	247, 248	$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_4, 4 t, a_{13 \cdot 24 \cdot 56} \cdot t$
	249, 250	$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_4, 4 t, a_{13 \cdot 24 \cdot 56} \cdot t$
	251, 252	$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_4, 4 t, a_{13 \cdot 24 \cdot 56} \cdot t$
	253, 254	$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_4, 4 t, a_{14 \cdot 23 \cdot 56} \cdot t$
	255, 256	$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_4, 4 t, a_{1324 \cdot 5867} \cdot t$
	257, 260	$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_4, 4 t, a_{1324 \cdot 5867} \cdot t,$ $a_{1324} \cdot b_{1324} \cdot t, a_{5768} \cdot b_{1324} \cdot t$
	261, 264	$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_4, 4 t, a_{1324 \cdot 5867} \cdot t,$ $a_{1324} \cdot b_{1324} \cdot t, a_{5768} \cdot b_{1324} \cdot t$
192	1, 2	$[(a_{12345678})_{96_{10}}(b_{12345678})_{96_{10}}]_1, 1 t, a_{12 \cdot 56} \cdot b_{12 \cdot 56} \cdot t$
	3	$[(a_{12345678})_{96_{10}}(b_{12345678})_{96_{10}}]_1, 1 t$
	4, 5	$[(a_{12345678})_{96_{11}}(b_{12345678})_{96_{11}}]_1, 1 t, a_{12 \cdot 56} \cdot b_{12 \cdot 56} \cdot t$
	6, 13	$[(a_{12345678})_{96_{12}}(b_{12345678})_{96_{12}}]_1, 1 t, a_{12 \cdot 34 \cdot 56 \cdot 78} \cdot t,$ $a_{12} \cdot b_{12} \cdot t, a_{34 \cdot 56 \cdot 78} \cdot b_{12} \cdot t, a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t,$ $a_{14 \cdot 23 \cdot 56 \cdot 78} \cdot b_{13 \cdot 24} \cdot t, a_{1423} \cdot b_{1423} \cdot t, a_{1324 \cdot 56 \cdot 78} \cdot b_{1423} \cdot t$
	14	$[(a_{12345678})_{48_{16}}(b_{12345678})_{48_{16}}]_2, 2 t$
	15	$[(a_{12345678})_{48_{17}}(b_{12345678})_{48_{17}}]_2, 2 t$
	16, 17	$[(a_{12345678})_{24_9}(b_{12345678})_{24_9}]_4, 4 a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t,$ $a_{16 \cdot 25 \cdot 37 \cdot 48} \cdot b_{12 \cdot 56} \cdot t$
128	1	$[(a_{12345678})_{8_{25}}(b_{12345678})_{8_{25}}]_t$
	2	$[(a_{12345678})_{8_{26}}(b_{12345678})_{8_{26}}]_t$
	3	$[(a_{12345678})_{8_{23}}(b_{12345678})_{8_{23}}]_t$
	4	$[(a_{12345678})_{8_{24}}(b_{12345678})_{8_{24}}]_t$
	5	$[(a_{12345678})_{8_{23}}(b_{12345678})_{8_{23}}]_t$
	6, 9	$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_4, 4 t, a_{12 \cdot 56} \cdot t,$ $a_{1324 \cdot 5768} \cdot t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t$
	10	$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_4, 4 t$
	11	$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_4, 4 t$

Order	No.	
12		$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_4, 4t$
13, 16		$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_4, 4t, a_{12 \cdot 66} \cdot t,$ $a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{16 \cdot 25 \cdot 37 \cdot 48} \cdot t$
17		$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_4, 4t$
18		$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_4, 4t$
19		$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_4, 4t$
20, 23		$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_4, 4t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t,$ $a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{15 \cdot 26} \cdot b_{15 \cdot 26} \cdot t$
24		$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_4, 4t, a_{1324 \cdot 5768} \cdot t$
25, 28		$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_4, 4t, a_{15 \cdot 26} \cdot b_{15 \cdot 26} \cdot t,$ $a_{12 \cdot 56} \cdot t, a_{17 \cdot 23 \cdot 35 \cdot 46} \cdot t$
29		$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_4, 4t$
30, 33		$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_4, 4t, a_{12 \cdot 56} \cdot t,$ $a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{16 \cdot 25 \cdot 37 \cdot 48} \cdot t$
34		$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_4, 4t$
35		$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_4, 4t$
36		$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_4, 4t$
37, 40		$[(a_{12345678})_{16_{28}}(b_{12345678})_{16_{28}}]_4, 4t, a_{12 \cdot 56} \cdot t,$ $a_{1625} \cdot b_{1625} \cdot t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t$
41		$[(a_{12345678})_{16_{28}}(b_{12345678})_{16_{28}}]_4, 4t$
42, 45		$[(a_{12345678})_{16_{28}}(b_{12345678})_{16_{28}}]_4, 4t, a_{12 \cdot 56} \cdot t,$ $a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t, a_{1423 \cdot 5867} \cdot t$
46		$[(a_{12345678})_{16_{28}}(b_{12345678})_{16_{28}}]_4, 4t$
47		$[(a_{12345678})_{16_{28}}(b_{12345678})_{16_{28}}]_4, 4t$
48		$[(a_{12345678})_{16_{28}}(b_{12345678})_{16_{28}}]_4, 4t$
49, 52		$[(a_{12345678})_{16_{28}}(b_{12345678})_{16_{28}}]_4, 4t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t,$ $a_{17 \cdot 23 \cdot 36 \cdot 45} \cdot t, a_{1625} \cdot b_{1625} \cdot t$
53		$[(a_{12345678})_{16_{28}}(b_{12345678})_{16_{28}}]_4, 4t$
54, 57		$[(a_{12345678})_{16_{28}}(b_{12345678})_{16_{28}}]_4, 4t, a_{12 \cdot 56} \cdot t,$ $a_{1625 \cdot 3847} \cdot t, a_{1526 \cdot 3847} \cdot t$
58		$[(a_{12345678})_{16_{28}}(b_{12345678})_{16_{28}}]_4, 4t$
59		$[(a_{12345678})_{16_{28}}(b_{12345678})_{16_{28}}]_4, 4t$
60		$[(a_{12345678})_{16_{28}}(b_{12345678})_{16_{28}}]_4, 4t$
61, 64		$[(a_{12345678})_{16_{28}}(b_{12345678})_{16_{28}}]_4, 4t, a_{12 \cdot 56} \cdot t,$ $a_{1625 \cdot 3847} \cdot t, a_{1526 \cdot 3847} \cdot t$



Order	No.	
	65	$[(a_{12345678})_{16_{25}}(b_{12345678})_{16_{25}}]_4, 4 \ t$
	66	$[(a_{12345678})_{16_{25}}(b_{12345678})_{16_{25}}]_4, 4 \ t$
	67	$[(a_{12345678})_{16_{25}}(b_{12345678})_{16_{25}}]_4, 4 \ t$
	68, 69	$[(a_{12345678})_{16_{28}}(b_{12345678})_{16_{28}}]_4, 4 \ a_{1735 \cdot 2846} \cdot t,$ $a_{57 \cdot 68} \cdot b_{13 \cdot 24} \cdot t$
	70, 73	$[(a_{12345678})_{16_{28}}(b_{12345678})_{16_{28}}]_4, 4 \ t, a_{12 \cdot 34} \cdot t,$ $a_{12 \cdot 56} \cdot b_{12 \cdot 56} \cdot t, a_{1735 \cdot 2846} \cdot t$
	74	$[(a_{12345678})_{16_{28}}(b_{12345678})_{16_{28}}]_4, 4 \ t$
	75, 78	$[(a_{12345678})_{16_{28}}(b_{12345678})_{16_{28}}]_4, 4 \ t, a_{12 \cdot 34} \cdot t,$ $a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t, a_{14 \cdot 23} \cdot b_{13 \cdot 24} \cdot t$
	79, 82	$[(a_{12345678})_{16_{26}}(b_{12345678})_{16_{26}}]_4, 4 \ t, a_{12 \cdot 34} \cdot t,$ $a_{1324} \cdot b_{1324} \cdot t, a_{17362845} \cdot t$
	83	$[(a_{12345678})_{16_{26}}(b_{12345678})_{16_{26}}]_4, 4 \ t$
	84, 85	$[(a_{12345678})_{16_{26}}(b_{12345678})_{16_{26}}]_4, 4 \ a_{1324} \cdot b_{1324} \cdot t,$ $a_{17362845} \cdot t$
	86, 89	$[(a_{12345678})_{16_{26}}(b_{12345678})_{16_{26}}]_4, 4 \ t, a_{12 \cdot 56} \cdot b_{12 \cdot 56} \cdot t,$ $a_{34 \cdot 56} \cdot b_{12 \cdot 56} \cdot t, a_{17362845} \cdot t$
	90, 93	$[(a_{12345678})_{16_{30}}(b_{12345678})_{16_{30}}]_4, 4 \ t, a_{13 \cdot 24 \cdot 56} \cdot t,$ $a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{17352846} \cdot t$
	94	$[(a_{12345678})_{16_{30}}(b_{12345678})_{16_{30}}]_4, 4 \ t$
	95	$[(a_{12345678})_{16_{30}}(b_{12345678})_{16_{30}}]_4, 4 \ t$
	96	$[(a_{12345678})_{16_{30}}(b_{12345678})_{16_{30}}]_4, 4 \ t$
	97, 100	$[(a_{12345678})_{16_{29}}(b_{12345678})_{16_{29}}]_4, 4 \ t, a_{13 \cdot 24 \cdot 56} \cdot t,$ $a_{1625 \cdot 3847} \cdot t, a_{18452736} \cdot t$
	101	$[(a_{12345678})_{16_{29}}(b_{12345678})_{16_{29}}]_4, 4 \ t$
	102	$[(a_{12345678})_{16_{29}}(b_{12345678})_{16_{29}}]_4, 4 \ t$
	103	$[(a_{12345678})_{16_{29}}(b_{12345678})_{16_{29}}]_4, 4 \ t$
	104, 105	$[(a_{12345678})_{32_{10}}(b_{12345678})_{32_{10}}]_2, 2 \ t, a_{12 \cdot 56} \cdot b_{16 \cdot 25 \cdot 37 \cdot 48} \cdot t$
	106, 109	$[(a_{12345678})_{32_{11}}(b_{12345678})_{32_{11}}]_2, 2 \ t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t,$ $a_{12 \cdot 34} \cdot t, a_{14 \cdot 23 \cdot 57 \cdot 68} \cdot t$
	110	$[(a_{12345678})_{32_{11}}(b_{12345678})_{32_{11}}]_2, 2 \ t$
	111	$[(a_{12345678})_{32_{11}}(b_{12345678})_{32_{11}}]_2, 2 \ t$
	112, 118	$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_2, 2 \ t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t,$ $a_{1324 \cdot 5768} \cdot t, a_{12 \cdot 34} \cdot t, a_{12} \cdot b_{12} \cdot t, a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t,$ $a_{1423} \cdot b_{1423} \cdot t$

Order	No.	
119, 120		$[(a_{12345678})_{32,12}(b_{12345678})_{32,12}]_2, 2 \ t, a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t$
121		$[(a_{12345678})_{32,12}(b_{12345678})_{32,12}]_2, 2 \ t$
122		$[(a_{12345678})_{32,12}(b_{12345678})_{32,12}]_2, 2 \ t$
123, 124		$[(a_{12345678})_{32,12}(b_{12345678})_{32,12}]_2, 2 \ t, a_{1423} \cdot b_{1324} \cdot t$
125		$[(a_{12345678})_{32,12}(b_{12345678})_{32,12}]_2, 2 \ t$
126, 128		$[(a_{12345678})_{32,12}(b_{12345678})_{32,12}]_2, 2 \ t, a_{135 \cdot 246} \cdot b_{153 \cdot 264} \cdot t,$ $a_{153 \cdot 264} \cdot b_{135 \cdot 246} \cdot t$
129		$[(a_{12345678})_{32,12}(b_{12345678})_{32,12}]_2, 2 \ t$
130, 135		$[(a_{12345678})_{32,12}(b_{12345678})_{32,12}]_2, 2 \ t, a_{12 \cdot 34} \cdot t,$ $a_{12 \cdot 56} \cdot t, a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t, a_{57 \cdot 68} \cdot b_{13 \cdot 24} \cdot t,$ $a_{1537 \cdot 2648} \cdot b_{13 \cdot 24} \cdot t$
136, 138		$[(a_{12345678})_{32,12}(b_{12345678})_{32,12}]_2, 2 \ t, a_{12 \cdot 34} \cdot t,$ $a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t$
139, 142		$[(a_{12345678})_{32,12}(b_{12345678})_{32,12}]_2, 2 \ t, a_{12 \cdot 34} \cdot t,$ $a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t, a_{14 \cdot 23 \cdot 57 \cdot 68} \cdot t$
143, 146		$[(a_{12345678})_{32,12}(b_{12345678})_{32,12}]_2, 2 \ t, a_{12 \cdot 56} \cdot t,$ $a_{1625 \cdot 3847} \cdot t, a_{1526 \cdot 3847} \cdot t$
147, 150		$[(a_{12345678})_{32,12}(b_{12345678})_{32,12}]_2, 2 \ t, a_{12 \cdot 56} \cdot t,$ $a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{16 \cdot 25 \cdot 37 \cdot 48} \cdot t$
151, 154		$[(a_{12345678})_{32,12}(b_{12345678})_{32,12}]_2, 2 \ t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t,$ $a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{17 \cdot 28 \cdot 35 \cdot 46} \cdot t$
155, 158		$[(a_{12345678})_{32,12}(b_{12345678})_{32,12}]_2, 2 \ t, a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t,$ $a_{1625 \cdot 3847} \cdot t, a_{1827 \cdot 3645} \cdot t$
159		$[(a_{12345678})_{32,12}(b_{12345678})_{32,12}]_2, 2 \ t$
160		$[(a_{12345678})_{32,12}(b_{12345678})_{32,12}]_2, 2 \ t$
161		$[(a_{12345678})_{32,12}(b_{12345678})_{32,12}]_2, 2 \ t$
162		$[(a_{12345678})_{32,12}(b_{12345678})_{32,12}]_2, 2 \ t$
163, 164		$[(a_{12345678})_{32,12}(b_{12345678})_{32,12}]_2, 2 \ t, a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t$
165, 167		$[(a_{12345678})_{32,12}(b_{12345678})_{32,12}]_2, 2 \ t, a_{135 \cdot 246} \cdot b_{153 \cdot 264} \cdot t,$ $a_{1324} \cdot b_{1423} \cdot t$
168, 175		$[(a_{12345678})_{32,12}(b_{12345678})_{32,12}]_2, 2 \ t, a_{12 \cdot 34} \cdot t,$ $a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{1625 \cdot 3847} \cdot t, a_{12} \cdot b_{12} \cdot t, a_{34} \cdot b_{12} \cdot t,$ $a_{15 \cdot 26} \cdot b_{15 \cdot 26} \cdot t, a_{1625} \cdot b_{1625} \cdot t$
176		$[(a_{12345678})_{32,12}(b_{12345678})_{32,12}]_2, 2 \ t$

Order	No.	
	177, 179	$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_2, 2 t, a_{12 \cdot 34} \cdot t,$ $a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t$
	180	$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_2, 2 t$
	181, 185	$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_2, 2 t, a_{12 \cdot 34} \cdot t,$ $a_{17 \cdot 28 \cdot 35 \cdot 46} \cdot t, a_{1827 \cdot 3645} \cdot t, a_{1423} \cdot b_{1423} \cdot t$
	186, 190	$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_2, 2 t, a_{12 \cdot 34} \cdot t,$ $a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t, a_{1625 \cdot 3847} \cdot t$
	191, 193	$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_2, 2 t, a_{12 \cdot 34} \cdot t,$ $a_{16 \cdot 25 \cdot 37 \cdot 48} \cdot t$
	194	$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_2, 2 t$
	195, 196	$[(a_{12345678})_{32_{15}}(b_{12345678})_{32_{13}}]_2, 2 a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t,$ $a_{57 \cdot 68} \cdot b_{13 \cdot 24} \cdot t$
	197, 200	$[(a_{12345678})_{32_{13}}(b_{12345678})_{32_{13}}]_2, 2 t, a_{12 \cdot 34} \cdot t,$ $a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t, a_{14 \cdot 23 \cdot 57 \cdot 68} \cdot t$
	201, 202	$[(a_{12345678})_{32_{14}}(b_{12345678})_{32_{14}}]_2, 2 a_{12 \cdot 56} \cdot t, a_{56} \cdot b_{12} \cdot t$
	203, 204	$[(a_{12345678})_{32_{14}}(b_{12345678})_{32_{14}}]_2, 2 a_{12 \cdot 34} \cdot t, a_{34 \cdot 56} \cdot t$
	205, 206	$[(a_{12345678})_{32_{15}}(b_{12345678})_{32_{15}}]_2, 2 a_{1423 \cdot 5867} \cdot t,$ $a_{12 \cdot 34 \cdot 5867} \cdot b_{1423} \cdot t$
	207, 210	$[(a_{12345678})_{32_{15}}(b_{12345678})_{32_{15}}]_2, 2 t, a_{12 \cdot 34} \cdot t,$ $a_{1423 \cdot 5867} \cdot t, a_{1324 \cdot 5867} \cdot t$
	211, 212	$[(a_{12345678})_{32_{17}}(b_{12345678})_{32_{17}}]_2, 2 t, a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t$
	213, 216	$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_2, 2 t, a_{12 \cdot 34} \cdot t,$ $a_{1324 \cdot 5867} \cdot t, a_{1423 \cdot 5867} \cdot t$
	217	$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_2, 2 t$
	218	$[(a_{12345678})_{32_{16}}(b_{12345678})_{32_{16}}]_2, 2 t$
112	1	$[(a_{12345678})_{56}(b_{12345678})_{56}]_1, 1 t$
96	1, 2	$[(a_{12345678})_{48_{16}}(b_{12345678})_{48_{16}}]_1, 1 t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t$
	3, 4	$[(a_{12345678})_{48_{16}}(b_{12345678})_{48_{16}}]_1, 1 t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t$
	5, 6	$[(a_{12345678})_{48_{17}}(b_{12345678})_{48_{17}}]_1, 1 t, a_{12 \cdot 34 \cdot 56 \cdot 78} \cdot t$
	7, 8	$[(a_{12345678})_{48_{17}}(b_{12345678})_{48_{17}}]_1, 1 t, a_{12 \cdot 34 \cdot 56 \cdot 78} \cdot t$
	9, 10	$[(a_{12345678})_{24_9}(b_{12345678})_{24_9}]_2, 2 t, a_{12 \cdot 56} \cdot b_{12 \cdot 56} \cdot t$
	11, 12	$[(a_{12345678})_{24_{10}}(b_{12345678})_{24_{10}}]_2, 2 t, a_{13 \cdot 24 \cdot 78} \cdot b_{13 \cdot 24 \cdot 78} \cdot t$
64	1, 2	$[(a_{12345678})_{8_{25}}(b_{12345678})_{8_{25}}]_4, 4 t, a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t$
	3	$[(a_{12345678})_{8_{26}}(b_{12345678})_{8_{25}}]_4, 4 a_{1324 \cdot 5768} \cdot t$



Order	No.
4, 5	$[(a_{12345678})_{8_{28}}(b_{12345678})_{8_{28}}]_{4, 4} t, a_{1526-3847} \cdot t$
6, 7	$[(a_{12345678})_{8_{22}}(b_{12345678})_{8_{22}}]_{4, 4} t, a_{17362845} \cdot t$
8	$[(a_{12345678})_{8_{24}}(b_{12345678})_{8_{24}}]_{4, 4} a_{15-26-37-48} \cdot t$
9, 10	$[(a_{12345678})_{8_{24}}(b_{12345678})_{8_{24}}]_{4, 4} t, a_{1324-5768} \cdot t$
11, 12	$[(a_{12345678})_{8_{23}}(b_{12345678})_{8_{23}}]_{4, 4} t, a_{15-26-37-48} \cdot t$
13, 20	$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_{2, 2} t, a_{1324-5768} \cdot t,$ $a_{12-56} \cdot t, a_{13-24-57-68} \cdot t, a_{15-26-37-48} \cdot t, a_{16-25-37-48} \cdot t,$ $a_{15-26} \cdot b_{15-26} \cdot t, a_{16-25} \cdot b_{15-26} \cdot t$
21, 24	$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_{2, 2} t, a_{1324-5768} \cdot t,$ $a_{12-56} \cdot t, a_{13-24-57-68} \cdot t$
25, 28	$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_{2, 2} t, a_{1324-5768} \cdot t,$ $a_{12-56} \cdot t, a_{13-24-57-68} \cdot t$
29, 31	$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_{2, 2} a_{1324-5768} \cdot t,$ $a_{12-56} \cdot t, a_{13-24-57-68} \cdot t$
32, 33	$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_{2, 2} t, a_{15-26-37-48} \cdot t$
34, 35	$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_{2, 2} t, a_{16-25-37-48} \cdot t$
36	$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_{2, 2} a_{1324-5768} \cdot t$
37, 38	$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_{2, 2} t, a_{1324-5768} \cdot t$
39, 40	$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_{2, 2} t, a_{1324-5768} \cdot t$
41	$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_{2, 2} a_{15-26-37-48} \cdot t$
42, 45	$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_{2, 2} t, a_{15-26-37-48} \cdot t,$ $a_{15-26} \cdot b_{15-26} \cdot t, a_{16-25} \cdot b_{15-26} \cdot t$
46, 47	$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_{2, 2} t, a_{12-34-56-78} \cdot t$
48, 55	$[(a_{12345678})_{16_{28}}(b_{12345678})_{16_{28}}]_{2, 2} t, a_{12-56} \cdot t,$ $a_{13-24-57-68} \cdot t, a_{1423-5867} \cdot t, a_{1625-3847} \cdot t,$ $a_{1526-3847} \cdot t, a_{1625} \cdot b_{1625} \cdot t, a_{1526} \cdot b_{1625} \cdot t$
56, 57	$[(a_{12345678})_{16_{25}}(b_{12345678})_{16_{25}}]_{2, 2} t, a_{13-24-57-68} \cdot t$
58, 59	$[(a_{12345678})_{16_{25}}(b_{12345678})_{16_{25}}]_{2, 2} t, a_{12-56} \cdot t$
60, 61	$[(a_{12345678})_{16_{25}}(b_{12345678})_{16_{25}}]_{2, 2} t, a_{12-56} \cdot t$
62, 64	$[(a_{12345678})_{16_{25}}(b_{12345678})_{16_{25}}]_{2, 2} a_{1625-3847} \cdot t,$ $a_{12-56-3847} \cdot b_{1625} \cdot t, a_{1625} \cdot b_{1625} \cdot t$
65, 66	$[(a_{12345678})_{16_{25}}(b_{12345678})_{16_{25}}]_{2, 2} t, a_{1625-3847} \cdot t$
67, 68	$[(a_{12345678})_{16_{25}}(b_{12345678})_{16_{25}}]_{2, 2} t, a_{1526-3847} \cdot t$
69, 70	$[(a_{12345678})_{16_{25}}(b_{12345678})_{16_{25}}]_{2, 2} t, a_{1625-3847} \cdot t$

Order	No.	
	71, 72	$[(a_{12345678})_{16_{25}}(b_{12345678})_{16_{25}}]_2, 2\ t, a_{1526.3847}.t$
	73, 76	$[(a_{12345678})_{16_{25}}(b_{12345678})_{16_{25}}]_2, 2\ t, a_{13.24.57.68}.t,$ $a_{1526}.b_{1625}.t, a_{13682457}.b_{1625}.t$
	77, 78	$[(a_{12345678})_{16_{25}}(b_{12345678})_{16_{25}}]_2, 2\ t, a_{13.24.57.68}.t$
	79, 81	$[(a_{12345678})_{16_{28}}(b_{12345678})_{16_{28}}]_2, 2\ t, a_{1735.2346}.t,$ $a_{57.68}.b_{13.24}.t, a_{58.67}.b_{13.24}.t$
	82, 83	$[(a_{12345678})_{16_{28}}(b_{12345678})_{16_{28}}]_2, 2\ t, a_{1735.2846}.t$
	84	$[(a_{12345678})_{16_{28}}(b_{12345678})_{16_{28}}]_2, 2\ t, a_{12.34.56.78}.t$
	85, 86	$[(a_{12345678})_{16_{28}}(b_{12345678})_{16_{28}}]_2, 2\ t, a_{12.34.56.78}.t$
	87, 88	$[(a_{12345678})_{16_{26}}(b_{12345678})_{16_{26}}]_2, 2\ t, a_{17362845}.t,$ $a_{12.57.68}.b_{13.24.56}.t$
	89, 90	$[(a_{12345678})_{16_{26}}(b_{12345678})_{16_{26}}]_2, 2\ t, a_{17362845}.t$
	91, 92	$[(a_{12345678})_{16_{30}}(b_{12345678})_{16_{30}}]_2, 2\ t, a_{1324.5867}.t$
	93, 94	$[(a_{12345678})_{16_{30}}(b_{12345678})_{16_{30}}]_2, 2\ t, a_{1324.5867}.t$
	95, 96	$[(a_{12345678})_{16_{29}}(b_{12345678})_{16_{29}}]_2, 2\ t, a_{1324.5867}.t$
	97, 98	$[(a_{12345678})_{16_{29}}(b_{12345678})_{16_{29}}]_2, 2\ t, a_{1324.5867}.t$
	99, 102	$[(a_{12345678})_{32_{11}}(b_{12345678})_{32_{11}}]_1, 1\ t, a_{12.34.56.78}.t,$ $a_{13.24.57.68}.t, a_{14.23.58.67}.t$
	103, 106	$[(a_{12345678})_{32_{12}}(b_{12345678})_{32_{12}}]_1, 1\ t, a_{12.34.56.78}.t,$ $a_{13.24}.b_{13.24}.t; a_{14.23.56.78}.b_{13.24}.t$
	107, 108	$[(a_{12345678})_{32_{17}}(b_{12345678})_{32_{17}}]_1, 1\ t, a_{12.34.56.78}.t$
48	1, 4	$[(a_{12345678})_{24_9}(b_{12345678})_{24_9}]_1, 1\ t, a_{15.26.37.48}.t,$ $a_{16.25.37.48}.b_{12.56}.t, a_{12.56}.b_{12.56}.t$
	5, 6	$[(a_{12345678})_{24_{11}}(b_{12345678})_{24_{11}}]_1, 1\ t, a_{12.56}.b_{12.56}.t$
	7, 10	$[(a_{12345678})_{24_{10}}(b_{12345678})_{24_{10}}]_1, 1\ t, a_{12.34.56.78}.t,$ $a_{13.24.78}.b_{13.24.78}.t, a_{14.23.56}.b_{13.24.78}.t$
32	1	$[(a_{12345678})_{8_{25}}(b_{12345678})_{8_{25}}]_2, 2\ t, a_{1324.5768}.t$
	2	$[(a_{12345678})_{8_{22}}(b_{12345678})_{8_{22}}]_2, 2\ t, a_{15482637}.t$
	3, 10	$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_1, 1\ t, a_{12.34.56.78}.t,$ $a_{15.26.37.48}.t, a_{12.34}.b_{12.34}.t, a_{15.26}.b_{15.26}.t,$ $a_{37.48}.b_{15.26}.t, a_{1526.34}.b_{1526.34}.t, a_{1625.78}.b_{1526.34}.t$
	11, 18	$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_1, 1\ t, a_{12.34.56.78}.t,$ $a_{15.26.37.48}.t, a_{16.25.38.47}.t, a_{15.26}.b_{15.26}.t,$ $a_{16.25.34.78}.b_{15.26}.t, a_{37.48}.b_{15.26}.t,$ $a_{12.56.38.47}.b_{15.26}.t$

Order	No.	
	19, 22	$[(a_{12345678})_{16_{27}}(b_{12345678})_{16_{27}}]_1, 1 \ t, \ a_{12 \cdot 34 \cdot 56 \cdot 78} \cdot t,$ $a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, \ a_{12 \cdot 34} \cdot b_{12 \cdot 34} \cdot t$
	23, 29	$[(a_{12345678})_{16_{25}}(b_{12345678})_{16_{25}}]_1, 1 \ a_{1625 \cdot 3847} \cdot t,$ $a_{56 \cdot 78} \cdot b_{12 \cdot 34} \cdot t, \ a_{1625} \cdot b_{1625} \cdot t, \ a_{1526 \cdot 34 \cdot 78} \cdot b_{1625} \cdot t,$ $a_{3748} \cdot b_{1625} \cdot t, \ a_{15 \cdot 26 \cdot 34} \cdot b_{15 \cdot 26 \cdot 34} \cdot t,$ $a_{16 \cdot 25 \cdot 78} \cdot b_{15 \cdot 26 \cdot 34} \cdot t$
	30, 34	$[(a_{12345678})_{16_{26}}(b_{12345678})_{16_{26}}]_1, 1 \ t, \ a_{12 \cdot 34 \cdot 56 \cdot 78} \cdot t,$ $a_{1625 \cdot 3847} \cdot t, \ a_{12 \cdot 34} \cdot b_{12 \cdot 34} \cdot t, \ a_{56 \cdot 78} \cdot b_{12 \cdot 34} \cdot t$
	35, 40	$[(a_{12345678})_{16_{23}}(b_{12345678})_{16_{23}}]_1, 1 \ a_{12 \cdot 34 \cdot 56 \cdot 78} \cdot t,$ $a_{13 \cdot 24} \cdot b_{12 \cdot 34} \cdot t, \ a_{14 \cdot 23 \cdot 56 \cdot 78} \cdot b_{13 \cdot 24} \cdot t, \ a_{57 \cdot 68} \cdot b_{13 \cdot 24} \cdot t,$ $a_{12 \cdot 56} \cdot b_{12 \cdot 56} \cdot t, \ a_{1324 \cdot 56} \cdot b_{1324 \cdot 56} \cdot t$
	41, 48	$[(a_{12345678})_{16_{28}}(b_{12345678})_{16_{28}}]_1, 1 \ t, \ a_{12 \cdot 34 \cdot 56 \cdot 78} \cdot t,$ $a_{13 \cdot 24 \cdot 57 \cdot 68} \cdot t, \ a_{14 \cdot 23 \cdot 58 \cdot 67} \cdot t, \ a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t,$ $a_{14 \cdot 23 \cdot 56 \cdot 78} \cdot b_{13 \cdot 24} \cdot t, \ a_{57 \cdot 68} \cdot b_{13 \cdot 24} \cdot t,$ $a_{12 \cdot 34 \cdot 58 \cdot 67} \cdot b_{13 \cdot 24} \cdot t$
	49, 55	$[(a_{12345678})_{16_{26}}(b_{12345678})_{16_{26}}]_1, 1 \ a_{1324 \cdot 5768} \cdot t,$ $a_{34 \cdot 78} \cdot b_{12 \cdot 56} \cdot t, \ a_{14 \cdot 23 \cdot 78} \cdot b_{13 \cdot 24 \cdot 56} \cdot t, \ a_{1324} \cdot b_{1324} \cdot t,$ $a_{12 \cdot 34 \cdot 5768} \cdot b_{1324} \cdot t, \ a_{12 \cdot 56} \cdot b_{12 \cdot 56} \cdot t,$ $a_{13 \cdot 24 \cdot 56} \cdot b_{13 \cdot 24 \cdot 56} \cdot t$
	56, 59	$[(a_{12345678})_{16_{30}}(b_{12345678})_{16_{30}}]_1, 1 \ t, \ a_{12 \cdot 34 \cdot 56 \cdot 78} \cdot t,$ $a_{12 \cdot 34} \cdot b_{12 \cdot 34} \cdot t, \ a_{56 \cdot 78} \cdot b_{12 \cdot 34} \cdot t$
16	1, 7	$[(a_{12345678})_{8_{26}}(b_{12345678})_{8_{26}}]_1, 1 \ t, \ a_{12 \cdot 34} \cdot b_{12 \cdot 34} \cdot t,$ $a_{12 \cdot 56} \cdot b_{12 \cdot 56} \cdot t, \ a_{15 \cdot 26} \cdot b_{15 \cdot 26} \cdot t, \ a_{34 \cdot 78} \cdot b_{12 \cdot 56} \cdot t,$ $a_{15 \cdot 26 \cdot 37 \cdot 48} \cdot t, \ a_{16 \cdot 25 \cdot 37 \cdot 48} \cdot b_{12 \cdot 56} \cdot t$
	8, 13	$[(a_{12345678})_{8_{21}}(b_{12345678})_{8_{21}}]_1, 1 \ t, \ a_{12 \cdot 34} \cdot b_{12 \cdot 34} \cdot t,$ $a_{13 \cdot 24 \cdot 56} \cdot b_{13 \cdot 24 \cdot 56} \cdot t, \ a_{15482637} \cdot t, \ a_{14 \cdot 23 \cdot 78} \cdot b_{13 \cdot 24 \cdot 56} \cdot t,$ $a_{14 \cdot 23 \cdot 56} \cdot b_{14 \cdot 23 \cdot 56} \cdot t$
	14	$[(a_{12345678})_{8_{23}}(b_{12345678})_{8_{23}}]_1, 1 \ t$



SYSTEMS OF INTRANSITIVITY OF HEADS 4, 4, 4, 4.

Order	No.	
7962624	1	$[(a_{1234}) \text{ all } (b_{1234}) \text{ all } (c_{1234}) \text{ all } (d_{1234}) \text{ all}] t t_1 t_3$
3981312	1	$[(a_{1234}) \text{ all } (b_{1234}) \text{ all } (c_{1234}) \text{ all } (d_{1234}) \text{ all}] t t_1$
	2, 3	$[\{(a_{1234}) \text{ all } (b_{1234}) \text{ all } (c_{1234}) \text{ all}\} (d_{1234}) \text{ all}]_{6912, 12}$ $t t_1 t_3, t t_1 a_{12} . t_3$
1990656	1	$[\{(a_{1234}) \text{ all } (b_{1234}) \text{ all } (c_{1234}) \text{ all}\} (d_{1234})$ $\text{all}]_{6912, 12} t t_1$
995328	1, 2	$[(a_{1234}) \text{ all } (b_{1234}) \text{ all } (c_{1234}) \text{ all } (d_{1234})$ $\text{all}]_{12, 12, 12, 12} t t_1 t_3, a_{12} . c_{12} . t t_1 d_{12} . t_3$
497664	1, 2	$[(a_{1234}) \text{ all } (b_{1234}) \text{ all } (c_{1234}) \text{ all } (d_{1234})$ $\text{all}]_{12, 12, 12, 12} t t_1, a_{12} . c_{12} . t t_1$
331776	1	$[\{(a_{1234}) \text{ all } (b_{1234}) \text{ all } (c_{1234}) \text{ all}\}_{12, 12, 12} (d_{1234})$ $\text{all}]_{576, 4} t t_1 t_3$
248832	1	$[(a_{1234}) \text{ pos } (b_{1234}) \text{ pos } (c_{1234}) \text{ pos } (d_{1234}) \text{ pos}] t t_1$
165888	1	$[\{(a_{1234}) \text{ all } (b_{1234}) \text{ all } (c_{1234}) \text{ all}\}_{12, 12, 12} (d_{1234})$ $\text{all}]_{576, 4} t t_1$
	2, 4	$[\{(a_{1234}) \text{ pos } (b_{1234}) \text{ pos } (c_{1234}) \text{ pos}\} (d_{1234})$ $\text{pos}]_{576, 4} t t_1 t_3, t t_1 a_{12} . b_{12} . c_{12} . d_{12} . t_3,$ $t d_{123} . t_1 a_{12} . b_{12} . c_{12} . d_{12} . t_3$
98304	1	$[(a_{1234})_8 (b_{1234})_8 (c_{1234})_8 (d_{1234})_8] t t_1 t_3$
82944	1, 2	$[(a_{1234}) \text{ pos } (b_{1234}) \text{ pos } (c_{1234}) \text{ pos } (d_{1234})$ $\text{pos}]_{576, 4} t t_1, t d_{123} . t_1$
49152	1	$[(a_{1234})_8 (b_{1234})_8 (c_{1234})_8 (d_{1234})_8] t t_1$
	2, 3	$[\{(a_{1234})_8 (b_{1234})_8 (c_{1234})_8\} (d_{1234})_8]_{256, 4} t t_1 t_3,$ $t t_1 a_{12} . t_3$
	4, 5	$[\{(a_{1234})_8 (b_{1234})_8 (c_{1234})_8\} (d_{1234})_8]_{256, 4} t t_1 t_3,$ $t t_1 a_{13-24} . t_3$
	6, 7	$[\{(a_{1234})_8 (b_{1234})_8 (c_{1234})_8\} (d_{1234})_8]_{256, 4} t t_1 t_3,$ $t t_1 a_{12} . t_3$
36864	1	$[\{(a_{1234}) \text{ all } (b_{1234}) \text{ all } (c_{1234}) \text{ all}\}_{4, 4, 4} (d_{1234})$ $\text{all}]_{64, 4} t t_1 t_3$

Order	No.	
24576	1	$[(a_{1234})_8(b_{1234})_8(c_{1234})_8](d_{1234})_8]_{256, 4} t t_1$
	2	$[(a_{1234})_8(b_{1234})_8(c_{1234})_8](d_{1234})_8]_{256, 4} t t_1$
	3	$[(a_{1234})_8(b_{1234})_8(c_{1234})_8](d_{1234})_8]_{256, 4} t t_1$
	4, 7	$[(a_{1234})_8(b_{1234})_8(c_{1234})_8](d_{1234})_8]_{128, 2} t t_1 t_3,$ $t t_1 d_{12} \cdot t_3, t t_1 d_{13 \cdot 24} \cdot t_3, t t_1 d_{1324} \cdot t_3$
18432	1	$[(a_{1234}) \text{ all } (b_{1234}) \text{ all } (c_{1234}) \text{ all}]_{4, 4, 4} (d_{1234})$ $\text{all}]_{64, 4} t t_1$
	2, 3	$[(a_{1234}) \text{ pos } (b_{1234}) \text{ pos } (c_{1234}) \text{ pos}]_{4, 4, 4} (d_{1234})$ $\text{pos}]_{64, 4} t t_1 t_3, t t_1 a_{12} \cdot b_{12} \cdot c_{12} \cdot d_{12} \cdot t_3$
12288	1	$[(a_{1234})_8(b_{1234})_8(c_{1234})_8](d_{1234})_8]_{128, 2} t t_1$
	2	$[(a_{1234})_8(b_{1234})_8(c_{1234})_8]_{4, 4, 4} (d_{1234})_8]_{64, 4} t t_1 t_3$
	3	$[(a_{1234})_8(b_{1234})_8(c_{1234})_8]_{4, 4, 4} (d_{1234})_8]_{64, 4} t t_1 t_3$
	4	$[(a_{1234})_8(b_{1234})_8(c_{1234})_8]_{4, 4, 4} (d_{1234})_8]_{64, 4} t t_1 t_3$
9216	1	$[(a_{1234}) \text{ all } (b_{1234}) \text{ all } (c_{1234}) \text{ all}]_{4, 4, 4} (d_{1234})$ $\text{all}]_{16, 1} t t_1 t_3$
	2	$[(a_{1234}) \text{ pos } (b_{1234}) \text{ pos } (c_{1234}) \text{ pos}]_{4, 4, 4} (d_{1234})$ $\text{pos}]_{64, 4} t t_1$
6144	1	$[(a_{1234})_8(b_{1234})_8(c_{1234})_8]_{4, 4, 4} (d_{1234})_8]_{64, 4} t t_1$
	2	$[(a_{1234})_8(b_{1234})_8(c_{1234})_8]_{4, 4, 4} (d_{1234})_8]_{64, 4} t t_1$
	3	$[(a_{1234})_8(b_{1234})_8(c_{1234})_8]_{4, 4, 4} (d_{1234})_8]_{64, 4} t t_1$
	4, 7	$[(a_{1234})_8(b_{1234})_8(c_{1234})_8]_{4, 4, 4} (d_{1234})_8]_{32, 2} t t_1 t_3,$ $t t_1 d_{1324} \cdot t_3, a_{12} \cdot d_{12} \cdot t t_1 d_{12} \cdot t_3,$ $a_{12} \cdot d_{12} \cdot t t_1 d_{13 \cdot 24} \cdot t_3$
8, 11		$[(a_{1234})_8(b_{1234})_8(c_{1234})_8]_{4, 4, 4} (d_{1234})_8]_{32, 2} t t_1 t_3,$ $t t_1 d_{12} \cdot t_3, a_{13 \cdot 24} \cdot d_{13 \cdot 24} \cdot t t_1 d_{13 \cdot 24} \cdot t_3,$ $a_{13 \cdot 24} \cdot d_{13 \cdot 24} \cdot t t_1 d_{1324} \cdot t_3$
12, 15		$[(a_{1234})_8(b_{1234})_8(c_{1234})_8]_{4, 4, 4} (d_{1234})_8]_{32, 2} t t_1 t_3,$ $t t_1 d_{13 \cdot 24} \cdot t_3, a_{12} \cdot d_{12} \cdot t t_1 d_{12} \cdot t_3,$ $a_{12} \cdot d_{12} \cdot t t_1 d_{1324} \cdot t_3$
16		$[(a_{1234})_8(b_{1234})_8(c_{1234})_8]_{16, 2} (d_{1234})_8]_{32, 2} t t_1 t_3$
17, 18		$[(a_{1234}) \text{ cyc } (b_{1234}) \text{ cyc } (c_{1234}) \text{ cyc } (d_{1234}) \text{ cyc}]$ $t t_1 t_3, t t_1 a_{12} \cdot b_{12} \cdot c_{12} \cdot d_{12} \cdot t_3$
19, 21		$[(a_{1234})_4(b_{1234})_4(c_{1234})_4(d_{1234})_4] t t_1 t_3,$ $t t_1 a_{12} \cdot b_{12} \cdot c_{12} \cdot d_{12} \cdot t_3, t a_{123} \cdot b_{132} \cdot d_{123} \cdot t_1$ $a_{12} \cdot b_{12} \cdot c_{23} \cdot d_{23} \cdot t_3$

Order	No.	
4608	1	$[ \{ (a_{1234}) \text{ all } (b_{1234}) \text{ all } (c_{1234}) \text{ all} \} _{4, 4, 4} (d_{1234}) \text{ all} ]_{16, 1} t t_1$
	2, 3	$[ \{ (a_{1234}) \text{ pos } (b_{1234}) \text{ pos } (c_{1234}) \text{ pos} \} _{4, 4, 4} (d_{1234}) \text{ pos} ]_{16, 1} t t_1 t_3, t t_1 a_{12} . b_{12} . c_{12} . d_{12} . t_3$
3072	1, 2	$[ \{ (a_{1234})_8 (b_{1234})_8 (c_{1234})_8 \} _{4, 4, 4} (d_{1234})_8 ]_{32, 2} t t_1, a_{12} . d_{12} . t t_1$
	3, 4	$[ \{ (a_{1234})_8 (b_{1234})_8 (c_{1234})_8 \} _{4, 4, 4} (d_{1234})_8 ]_{32, 2} t t_1, a_{13 \cdot 24} . d_{13 \cdot 24} . t t_1$
	5, 6	$[ \{ (a_{1234})_8 (b_{1234})_8 (c_{1234})_8 \} _{4, 4, 4} (d_{1234})_8 ]_{32, 2} t t_1, a_{12} . d_{12} . t t_1$
	7	$[ \{ (a_{1234})_8 (b_{1234})_8 (c_{1234})_8 \} _{16, 2} (d_{1234})_8 ]_{32, 2} t t_1$
	8, 9	$[ \{ (a_{1234})_8 (b_{1234})_8 (c_{1234})_8 \} _{4, 4, 4} (d_{1234})_8 ]_{16, 1} t t_1 t_3, t t_1 d_{12 \cdot 34} . t_3$
	10, 11	$[ \{ (a_{1234})_8 (b_{1234})_8 (c_{1234})_8 \} _{4, 4, 4} (d_{1234})_8 ]_{16, 1} t t_1 t_3, t t_1 d_{12 \cdot 34} . t_3$
	12	$[ \{ (a_{1234}) \text{ cyc } (b_{1234}) \text{ cyc } (c_{1234}) \text{ cyc} \} (d_{1234}) \text{ cyc} ] t t_1$
	13, 14	$[ \{ (a_{1234})_4 (b_{1234})_4 (c_{1234})_4 \} (d_{1234})_4 ] t t_1, t a_{123} . b_{132} . d_{123} . t_1$
	15, 18	$[ \{ (a_{1234}) \text{ cyc } (b_{1234}) \text{ cyc } (c_{1234}) \text{ cyc} \} (d_{1234}) \text{ cyc} ]_{32, 2} t t_1 t_3, t t_1 d_{1324} . t_3, t t_1 a_{12} . b_{12} . c_{12} . d_{12} . t_3, t t_1 a_{12} . b_{12} . c_{12} . d_{13 \cdot 24} . t_3$
	19, 20	$[ \{ (a_{1234})_4 (b_{1234})_4 (c_{1234})_4 \} (d_{1234})_4 ]_{32, 2} t t_1 t_3, t t_1 a_{12} . b_{12} . c_{12} . d_{12} . t_3$
2304	1	$[ \{ (a_{1234}) \text{ pos } (b_{1234}) \text{ pos } (c_{1234}) \text{ pos} \} _{4, 4, 4} (d_{1234}) \text{ pos} ]_{16, 1} t t_1$
1536	1	$[ \{ (a_{1234})_8 (b_{1234})_8 (c_{1234})_8 \} _{4, 4, 4} (d_{1234})_8 ]_{16, 1} t t_1$
	2	$[ \{ (a_{1234})_8 (b_{1234})_8 (c_{1234})_8 \} _{4, 4, 4} (d_{1234})_8 ]_{16, 1} t t_1$
	3	$[ \{ (a_{1234})_8 (b_{1234})_8 (c_{1234})_8 \} _{4, 4, 4} (d_{1234})_8 ]_{16, 1} t t_1$
	4, 6	$[ \{ (a_{1234})_8 (b_{1234})_8 (c_{1234})_8 \} _{2, 2, 2} (d_{1234})_8 ]_{8, 2} a_{12} . c_{12} . t t_1 d_{12} . t_3, a_{13 \cdot 24} . c_{13 \cdot 24} . t t_1 d_{13 \cdot 24} . t_3, a_{1324} . c_{1324} . t t_1 d_{1324} . t_3$
	7	$[ \{ (a_{1234}) \text{ cyc } (b_{1234}) \text{ cyc } (c_{1234}) \text{ cyc} \} (d_{1234}) \text{ cyc} ]_{32, 2} t t_1$



Order	No.	
	8, 11	$[ \{ (a_{1234}) \text{ cyc } (b_{1234}) \text{ cyc } (c_{1234}) \text{ cyc } \} (d_{1234}) \text{ cyc } ]_{16, 1}$ $t t_1 t_3, t t_1 d_{12 \cdot 34} \cdot t_3, t t_1 a_{12} \cdot b_{12} \cdot c_{12} \cdot d_{12} \cdot t_3,$ $t t_1 a_{12} \cdot b_{12} \cdot c_{12} \cdot d_{13 \cdot 24} \cdot t_3$
	12	$[ \{ (a_{1234})_4 (b_{1234})_4 (c_{1234})_4 \} (d_{1234})_4 ]_{32, 2} t t_1$
	13, 17	$[ \{ (a_{1234})_4 (b_{1234})_4 (c_{1234})_4 \} (d_{1234})_4 ]_{16, 1} t t_1 t_3,$ $t t_1 d_{12 \cdot 34} \cdot t_3, t t_1 a_{12} \cdot b_{12} \cdot c_{12} \cdot d_{12} \cdot t_3,$ $t a_{123} \cdot b_{123} \cdot c_{123} \cdot d_{123} \cdot t_1 a_{12} \cdot b_{12} \cdot c_{12} \cdot d_{12} \cdot t_3,$ $d_{12 \cdot 34} \cdot t a_{123} \cdot b_{123} \cdot c_{123} \cdot d_{123} \cdot t_1 a_{12} \cdot b_{12} \cdot c_{12} \cdot d_{12} \cdot t_3$
1152	1	$[ \{ \{ (a_{1234}) \text{ pos } (b_{1234}) \text{ pos } \}_4, 4 (c_{1234}) \text{ pos } \}_4, 1 (d_{1234}) \text{ pos } ]_4, 1 t t_1 a_{12} \cdot b_{12} \cdot c_{12} \cdot d_{12} \cdot t_3$
768	1, 3	$[ \{ (a_{1234})_8 (b_{1234})_8 (c_{1234})_8 \}_2, 2, 2 (d_{1234})_8 ]_8, 2$ $a_{12} \cdot c_{12} \cdot t t_1, a_{13 \cdot 24} \cdot c_{13 \cdot 24} \cdot t t_1, a_{1324} \cdot c_{1324} \cdot t t_1$
	4, 9	$[ \{ (a_{1234})_8 (b_{1234})_8 (c_{1234})_8 \}_2, 2, 2 (d_{1234})_8 ]_4, 1$ $a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t t_1 t_3, a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t t_1 d_{12 \cdot 34} \cdot t_3,$ $a_{12} \cdot b_{12} \cdot t t_1 t_3, a_{12} \cdot b_{12} \cdot t t_1 d_{12 \cdot 34} \cdot t_3,$ $a_{1324} \cdot b_{1324} \cdot d_{12 \cdot 34} \cdot t t_1 t_3, a_{1324} \cdot b_{1324} \cdot d_{12 \cdot 34} \cdot t t_1$ $d_{12 \cdot 34} \cdot t_3$
	10	$[ \{ (a_{1234}) \text{ cyc } (b_{1234}) \text{ cyc } (c_{1234}) \text{ cyc } \} (d_{1234}) \text{ cyc } ]_{16, 1} t t_1$
	11, 13	$[ \{ (a_{1234}) \text{ cyc } (b_{1234}) \text{ cyc } (c_{1234}) \text{ cyc } \}_2, 2, 2 (d_{1234}) \text{ cyc } ]_8, 2 t t_1 a_{12} \cdot b_{12} \cdot c_{12} \cdot d_{12} \cdot t_3,$ $a_{1324} \cdot c_{1324} \cdot t t_1 d_{1324} \cdot t_3, a_{1324} \cdot c_{1324} \cdot t t_1$ $a_{12} \cdot b_{12} \cdot c_{12} \cdot d_{13 \cdot 24} \cdot t_3$
	14, 16	$[ \{ (a_{1234})_4 (b_{1234})_4 (c_{1234})_4 \} (d_{1234})_4 ]_{16, 1} t t_1,$ $t a_{123} \cdot b_{123} \cdot c_{123} \cdot d_{123} \cdot t_1, d_{12 \cdot 34} \cdot t$ $a_{123} \cdot b_{123} \cdot c_{123} \cdot d_{123} \cdot t_1$
	17, 19	$[ \{ (a_{1234})_4 (b_{1234})_4 (c_{1234})_4 \}_2, 2, 2 (d_{1234})_4 ]_8, 2$ $t t_1 a_{12} \cdot b_{12} \cdot c_{12} \cdot d_{12} \cdot t_3, a_{13 \cdot 24} \cdot c_{13 \cdot 24} \cdot t t_1 d_{13 \cdot 24} \cdot t_3,$ $a_{13 \cdot 24} \cdot c_{13 \cdot 24} \cdot t t_1 a_{12} \cdot b_{12} \cdot c_{12} \cdot d_{1324} \cdot t_3$
576	1	$[ (a_{1234}) \text{ all } (b_{1234}) \text{ all } (c_{1234}) \text{ all } (d_{1234}) \text{ all } ]_1, 1, 1, 1 t t_1 t_3$
	2	$[ \{ \{ (a_{1234}) \text{ pos } (b_{1234}) \text{ pos } \}_4, 4 (c_{1234}) \text{ pos } \}_4, 1 (d_{1234}) \text{ pos } ]_4, 1 t t_1$

Order	No.	
384	1, 6	$[\{(a_{1234})_8(b_{1234})_8(c_{1234})_8\}_{2, 2, 2}(d_{1234})_8]_{4, 1}$ $\cdot a_{13 \cdot 24} \cdot b_{13 \cdot 24} \cdot t_1, a_{13 \cdot 24} \cdot d_{13 \cdot 24} \cdot t_1,$ $a_{1324} \cdot d_{1423} \cdot t_1, a_{1324} \cdot b_{1324} \cdot d_{12 \cdot 34} \cdot t_1,$ $b_{1324} \cdot d_{1423} \cdot t_1, b_{13 \cdot 24} \cdot d_{13 \cdot 24} \cdot t_1$
	7	$[\{(a_{1234}) \text{ cyc } (b_{1234}) \text{ cyc } (c_{1234}) \text{ cyc}\}_{2, 2, 2}(d_{1234}) \text{ cyc}]_{8, 2} a_{1324} \cdot c_{1324} \cdot t_1$
	8, 9	$[\{(a_{1234}) \text{ cyc } (b_{1234}) \text{ cyc } (c_{1234}) \text{ cyc}\}_{2, 2, 2}(d_{1234}) \text{ cyc}]_{4, 1} a_{1324} \cdot d_{1423} \cdot t_1 a_{12} \cdot b_{12} \cdot c_{12} \cdot d_{14 \cdot 23} \cdot t_3,$ $a_{1324} \cdot d_{1423} \cdot t_1 a_{12} \cdot b_{12} \cdot c_{12} \cdot d_{13 \cdot 24} \cdot t_3$
	10	$[\{(a_{1234})_4(b_{1234})_4(c_{1234})_4\}_{2, 2, 2}(d_{1234})_4]_{8, 2}$ $a_{13 \cdot 24} \cdot c_{13 \cdot 24} \cdot t_1$
	11, 12	$[\{(a_{1234})_4(b_{1234})_4(c_{1234})_4\}_{2, 2, 2}(d_{1234})_4]_{4, 1}$ $a_{13 \cdot 24} \cdot d_{13 \cdot 24} \cdot t_1 d_{13 \cdot 24} \cdot t_3, a_{13 \cdot 24} \cdot d_{13 \cdot 24} \cdot t_1 d_{14 \cdot 23} \cdot t_3$
	13, 17	$[\{(a_{1234})_4(b_{1234})_4(c_{1234})_4\}_{4, 1}(d_{1234})_4]_{4, 1} t_1$ $a_{12} \cdot b_{12} \cdot c_{12} \cdot d_{12} \cdot t_3, t a_{123} \cdot b_{123} \cdot c_{123} \cdot d_{123} \cdot t_1$ $a_{12} \cdot b_{12} \cdot c_{12} \cdot d_{12} \cdot t_3, t a_{123} \cdot b_{123} \cdot c_{123} \cdot d_{123} \cdot t_1$ $a_{1423} \cdot b_{12} \cdot c_{12} \cdot d_{12} \cdot t_3, t a_{132} \cdot b_{132} \cdot c_{132} \cdot d_{132} \cdot t_1$ $a_{12} \cdot b_{12} \cdot c_{12} \cdot d_{12} \cdot t_3, t a_{132} \cdot b_{132} \cdot c_{132} \cdot d_{143} \cdot t_1$ $a_{13} \cdot b_{13} \cdot c_{13} \cdot d_{13} \cdot t_3$
288	1	$[\{(a_{1234}) \text{ all } (b_{1234}) \text{ all } (c_{1234}) \text{ all}\}_{1, 1, 1}(d_{1234}) \text{ all}]_{1, 1} t_1$
	2, 3	$[\{(a_{1234}) \text{ pos } (b_{1234}) \text{ pos } (c_{1234}) \text{ pos}\}_{1, 1, 1}(d_{1234}) \text{ pos}]_{1, 1} t_1 t_3, t t_1 a_{12} \cdot b_{12} \cdot c_{12} \cdot d_{12} \cdot t_3$
192	1	$[\{(a_{1234}) \text{ cyc } (b_{1234}) \text{ cyc } (c_{1234}) \text{ cyc}\}_{2, 2, 2}(d_{1234}) \text{ cyc}]_{4, 1} a_{1324} \cdot d_{1423} \cdot t_1$
	2	$[\{(a_{1234})_4(b_{1234})_4(c_{1234})_4\}_{2, 2, 2}(d_{1234})_4]_{4, 1}$ $a_{13 \cdot 24} \cdot d_{13 \cdot 24} \cdot t_1$
	3, 6	$[\{(a_{1234})_4(b_{1234})_4(c_{1234})_4\}_{4, 1}(d_{1234})_4]_{4, 1}$ $t_1, t a_{123} \cdot b_{123} \cdot c_{123} \cdot d_{123} \cdot t_1, t a_{132} \cdot b_{132} \cdot c_{132} \cdot d_{132} \cdot t_1,$ $t a_{132} \cdot b_{132} \cdot c_{132} \cdot d_{143} \cdot t_1$
144	1	$[\{(a_{1234}) \text{ pos } (b_{1234}) \text{ pos } (c_{1234}) \text{ pos}\}_{1, 1, 1}(d_{1234}) \text{ pos}]_{1, 1} t_1$
96	1	$[\{(a_{1234}) \text{ cyc } (b_{1234}) \text{ cyc } (c_{1234}) \text{ cyc}\}_{1, 1, 1}(d_{1234}) \text{ cyc}]_{1, 1} t_1 a_{12} \cdot b_{12} \cdot c_{12} \cdot d_{12} \cdot t_3$

Order	No.	
	2, 6	$[\{(a_{1234})_4(b_{1234})_4(c_{1234})_4\}_1, 1, 1(d_{1234})_4]_1, 1$ $t\ t_1\ a_{12}\cdot b_{12}\cdot c_{12}\cdot d_{12}\cdot t_3, \ t\ a_{123}\cdot b_{123}\cdot c_{123}\cdot d_{123}\cdot t_1$ $a_{12}\cdot b_{12}\cdot c_{12}\cdot d_{12}\cdot t_3, \ t\ a_{123}\cdot b_{123}\cdot c_{123}\cdot d_{123}\cdot t_1$ $a_{1324}\cdot b_{1423}\cdot c_{12}\cdot d_{34}\cdot t_3, \ a_{14\cdot 23}\cdot b_{13\cdot 24}\cdot d_{12\cdot 34}\cdot t$ $a_{123}\cdot b_{123}\cdot c_{123}\cdot d_{123}\cdot t_1\ a_{12}\cdot b_{12}\cdot c_{12}\cdot d_{12}\cdot t_3,$ $a_{14\cdot 23}\cdot b_{13\cdot 24}\cdot d_{12\cdot 34}\cdot t\ a_{123}\cdot b_{123}\cdot c_{123}\cdot d_{123}\cdot t_1$ $a_{1324}\cdot b_{1423}\cdot c_{12}\cdot d_{34}\cdot t_3$
48	1, 2	$[\{(a_{1234})_4(b_{1234})_4(c_{1234})_4\}_1, 1, 1(d_{1234})_4]_1, 1$ $t\ a_{123}\cdot b_{123}\cdot c_{123}\cdot d_{123}\cdot t_1, \ a_{14\cdot 23}\cdot b_{13\cdot 24}\cdot d_{12\cdot 34}\cdot t$ $a_{123}\cdot b_{123}\cdot c_{123}\cdot d_{123}\cdot t_1$



SYSTEMS OF INTRANSITIVITY OF HEADS 2, 2, 2, 2, 2, 2, 2, 2.

Order	No.	
10321920	1	$[(a_{12})(b_{12})(c_{12})(d_{12})(e_{12})(f_{12})(g_{12})(h_{12})] t_1 t_7$
5160960	1	$[(a_{12})(b_{12})(c_{12})(d_{12})(e_{12})(f_{12})(g_{12})(h_{12})] t_1 t_6$
	2, 3	$[(a_{12})(b_{12})(c_{12})(d_{12})(e_{12})(f_{12})(g_{12})(h_{12})] \text{ pos } t_1 t_7,$ $t_1 a_{12} \cdot t_7$
2580480	1	$[(a_{12})(b_{12})(c_{12})(d_{12})(e_{12})(f_{12})(g_{12})(h_{12})] \text{ pos } t_1 t_6.$
344064	1	$[(a_{12})(b_{12})(c_{12})(d_{12})(e_{12})(f_{12})(g_{12})(h_{12})] t_1 t_4 t_3^2 t_5$
172032	1, 2	$[(a_{12})(b_{12})(c_{12})(d_{12})(e_{12})(f_{12})(g_{12})(h_{12})]$ $\text{ pos } t_1 t_4 t_3^2 t_5, t_1 t_4 t_3^2 a_{12} \cdot t_5$
86016	1	$[(a_{12})(b_{12})(c_{12})(d_{12})(e_{12})(f_{12})(g_{12})(h_{12})] t_1 t_2 t_3$
43008	1	$[(a_{12})(b_{12})(c_{12})(d_{12})(e_{12})(f_{12})(g_{12})(h_{12})] t_1 t_2^2 t_3^2$
	2, 3	$[(a_{12})(b_{12})(c_{12})(d_{12})(e_{12})(f_{12})(g_{12})(h_{12})] \text{ pos } t_1 t_2 t_3,$ $t_1 a_{12} \cdot t_2 a_{12} \cdot t_3$
21504	1, 2	$[(a_{12})(b_{12})(c_{12})(d_{12})(e_{12})(f_{12})(g_{12})(h_{12})] \text{ pos } t_1 t_4 t_3^2,$ $t_1 t_2^2 t_3^2$
14336	1	$[(a_{12})(b_{12})(c_{12})(d_{12})(e_{12})(f_{12})(g_{12})(h_{12})] t_1 t_4$
7168	1	$[(a_{12})(b_{12})(c_{12})(d_{12})(e_{12})(f_{12})(g_{12})(h_{12})] \text{ pos } t_1 t_4$
2688	1	$[a_{12} \cdot b_{12} \cdot c_{12} \cdot d_{12} \cdot e_{12} \cdot f_{12} \cdot g_{12} \cdot h_{12}]$ $t_1 t_4 t_3^2 a_{12} \cdot b_{12} \cdot c_{12} \cdot f_{12} \cdot t_5$
672	1, 3	$[a_{12} \cdot b_{12} \cdot c_{12} \cdot d_{12} \cdot e_{12} \cdot f_{12} \cdot g_{12} \cdot h_{12}] t_1 a_{12} \cdot b_{12} \cdot d_{12} \cdot t_2$ $h_{12} \cdot t_3, t_1 f_{12} \cdot d_{12} \cdot g_{12} \cdot t_2 h_{12} \cdot t_3,$ $t_1 a_{12} \cdot b_{12} \cdot f_{12} \cdot g_{12} \cdot t_2 t_3$
336	1	$[1] t_1 t_2 t_3$
	2	$[a_{12} \cdot b_{12} \cdot c_{12} \cdot d_{12} \cdot e_{12} \cdot f_{12} \cdot g_{12} \cdot h_{12}] t_1 t_3^2 a_{12} \cdot b_{12} \cdot h_{12} \cdot t_2^2$
		2188









FAMILY BINDER  
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Stockton, Calif.



